ABSTRACTS OF THE 23ND SPACV NATIONAL MEETING

SESSÃO MELHOR COMUNICAÇÃO ORAL 1

CO 01 Pelvic Varicose Vein Questionaire (PVVQ): avaliação do impacto da embolização endovascular na melhoria da qualidade de vida

Mário Vieira, Carlos Veiga, Luís Vilaça, Ana Ferreira, Rodolfo Abreu, Roger Rodrigues, Pedro Garrido, Rita Augusto, João Oliveira

ULS Braga

INTRODUÇÃO E OBJETIVO: A Síndrome de Congestão Pélvica (SCP) é uma condição caracterizada por um conjunto de sintomas, sendo a dor pélvica crônica com duração de 6 meses ou mais um dos mais proeminentes. Afeta principalmente mulheres entre 20 e 45 anos, exercendo um impacto substancial na qualidade de vida. Embora o tratamento endovascular seja considerado a primeira linha de intervenção, a literatura atual ainda carece de evidências sobre seu impacto na qualidade de vida. Este estudo visa avaliar como o tratamento endovascular influencia a dor pélvica e a qualidade de vida em pacientes com SCP, além de analisar os fatores associados à eficácia desse tratamento.

MÉTODOS: Estudo unicentrico observacional transversal com análise retrospetiva e prospetiva histórica, entre abril de 2019 e abril de 2023. Foram incluídas pacientes diagnosticadas com SCP que foram submetidas a tratamento endovascular. Os critérios de exclusão abrangiam pacientes do sexo masculino, menores de 18 anos e aqueles com condições neurológicas, psiquiátricas ou outras condições clínicas ou sociais que pudessem afetar a aplicação adequada dos questionários de qualidade de vida. Os participantes completaram o questionário PVVQ e uma escala numérica de dor, antes do tratamento e posteriormente para avaliar o estado atual. Para a análise estatística dos dados, foi utilizado o software IBM SPSS, versão 29. Foi adotado um nível de significância estatística de 5% ($p<0,05$) e um intervalo de confiança de 95%.

RESULTADOS: Um total de 35 pacientes participaram do estudo. Houve uma melhoria na qualidade de vida e na intensidade da dor pélvica, com uma diminuição média do escore de 13.71±16.50 e 3.94±2.78, respectivamente. Não foram encontradas associações entre a eficácia do tratamento e idade, número de gestações, classificação de Greiner ou recorrência de varizes dos membros. A prevalência de dispareunia diminuiu significativamente, com melhoria em 83,3% das pacientes, incluindo resolução completa em 43,3%.

CONCLUSÃO: Este é o primeiro estudo com avaliação objetiva clínica do tratamento da SCP. Os resultados sugerem que o tratamento endovascular oferece benefícios claros na redução da dor pélvica, dispareunia e na melhoria da qualidade de vida em pacientes com SCP.

CO 02 The impact of prior percutaneous transluminal angioplasty on distal bypass surgery outcomes

Gonçalo Araújo, Dr. Ricardo Correia, Dra. Maria Emília Ferreira

Hospital Santa Marta

INTRODUCTION: Some prior studies state that patients with peripheral artery disease (PAD) who have previously undergone endovascular treatment (EVT) may experience worse outcomes following infrainguinal bypass surgery. The aim of this study was to assess the impact of prior ipsilateral percutaneous transluminal angioplasty (PTA) on the prognosis of patients undergoing distal bypass surgery.

METHODS: Retrospective, single-center, comparative study. From January 2019 to January 2024, all patients with chronic lower limb ischemia undergoing distal bypass surgery were considered (bypass with distal anastomosis below the popliteal artery). Patients were categorized into two groups: those who had previously undergone ipsilateral percutaneous angioplasty (PTA group) and those who had not undergone this procedure (NPTA group). Both groups were compared regarding the primary endpoints of rates of reintervention and amputation and overall survival.

RESULTS: The study included 51 patients. 78% were male (N=40) and the mean age was 66 years. The median time of follow up was 16 months. 60% of patients (N=29) underwent preoperative planning diagnostic invasive angiography. The PTA group included 43% of the patients (N=22) and the NPTA group included 57% (N=29). In the PTA group the median time of the open surgery after the PTA was 98 days. Regarding the GLASS classification, no statistically significant differences were found between groups.Twelve patients in the NPTA group (40%) and six in the PTA group (28.6%) underwent major amputation after 47 months of follow-up, with no statistically significant difference between groups (p=.38) Additionally, there were no significant differences between groups in rates of reintervention (p=.21) and overall survival (p=.77).

CONCLUSIONS: CIn this cohort, we found that prior ipsilateral PTA did not influence the rates of reintervention and amputation and overall survival in patients undergoing distal bypass surgery for chronic lower limb ischemia treatment. A first EVT strategy does not probably compromise the limb if there is a timely open treatment consideration in the presence of unfavorable outcomes.

CO 03 Arterialização híbrida das veias do pé: o último recurso?

Luís Loureiro[1], Joana Martins[2], Sérgio Teixeira[1], Arlindo Matos[2], Andreia Pinelo[2], Rui Machado[1]

[1] Unidade Local de Saúde de Santo António, Instituto de Ciência Biomédicas de Abel Salazar - Universidade do Porto, [2] Unidade Local de Saúde de Santo António

INTRODUÇÃO: A isquemia crítica dos membros inferiores é uma condição grave associada a uma elevada taxa de amputação e morte. A revascularização arterial é o tratamento de escolha, mas nem sempre é possível devido à ausência de leito arterial distal. Nos últimos anos a cirurgia de arterialização das veias do pé, por via endovascular pura ou híbrida, tem sido realizada pontualmente. A cirurgia de arterialização híbrida das veias do pé consiste na construção de uma pontagem venosa com anastomose entre uma artéria da perna e uma veia do pé com desvalvulação endovascular associada.

MATERIAIS E MÉTODOS: Análise retrospetiva de uma base de dados prospetiva dos doentes submetidos a arterialização das veias do pé no período entre março de 2018 e novembro de 2023. De um total de 39 cirurgias de arterialização das veias do pé, 27 foram cirurgias de arterialização híbrida, tendo sido analisados os dados demográficos, clínicos, angiográficos e cirúrgicos. Os resultados foram avaliados em termos de salvamento de membro e cicatrização das lesões.

RESULTADOS: Foram realizadas 27 cirurgias em 25 doentes, a idade média dos doentes foi de 69 [42-85] anos, sendo 3 realizadas em mulheres. As comorbilidades mais frequentes foram diabetes (85%) e hipertensão arterial (81%); apenas 15% realizavam hemodiálise. A pressão transcutânea de oxigénio no pé pré-operatória foi em média 16 [2-43] mmHg. Todos os doentes apresentavam lesão trófica isquémica, com 85% localizadas apenas no antepé e em 15% a atingir o restante pé. A artéria utilizada para a anastomose dadora foi a poplítea em todos os casos e em 44% dos doentes a safena foi mantido in situ. Em dois doentes a veia teve rotura durante a desvalvulação endovascular. O tempo médio de seguimento foi de 34 [4-71] meses. A cicatrização das lesões ocorreu em 63% dos casos. A taxa de amputação major desta população foi de 19%, com uma taxa de salvamento de membro de 81%. A mortalidade aos 30 dias foi de 4% e durante o seguimento foi de 11%.

CONCLUSION: A cirurgia de arterialização híbrida das veias do pé é uma opção terapêutica válida para os doentes com isquemia crítica dos membros inferiores sem leito arterial distal, permitindo o salvamento do membro e a cicatrização das lesões. Trata-se de uma técnica segura, eficaz e reprodutível, podendo ser considerada mais uma técnica de revascularização.

CO 04 Outcomes of cervical debranching combined with thoracic endovascular aortic repair: a single center experience

Henrique Guedes da Rocha, João Castro, Andreia Pinelo, Henrique Almeida, Miguel Queirós, João Cabral, Samuel Cardoso, Carolina Vaz, Rui Machado

Unidade Local de Saúde de Santo António

OBJECTIVE/BACKGROUND: Thoracic endovascular aortic repair (TEVAR) has become the most common treatment modality for descending thoracic aortic pathology. Cervical debranching procedures like carotid-subclavian bypass or transposition (CSBT) and carotid-carotid bypass (CCB) allow for TEVAR in complex anatomy involving the arch. This study investigates the perioperative outcomes of surgical cervical debranching with single staged or two-stage TEVAR.

METHODS: We performed a single-center retrospective review of all patients treated with CSBT or CCB followed by TEVAR between January 2019 and December 2023. The primary outcome was primary patency of all targeted vessels, with all-cause perioperative 30-day mortality as a secondary outcome.

RESULTS: A total of 34 patients (23 men [67.6%], mean age 63.7 ± 10.5 years) underwent cervical debranching (31 CSBT and 3 CCB). The indication for TEVAR was thoracic aneurysm in 15 patients (44.1%), aneurysmal degeneration in 10 patients (29.4%) and penetrating aortic ulcer in 9 patients (26.9%). Local bleeding occurred in 4 patients (11.8%) requiring re-intervention. One patient (2.9%) developed local peripheral neurological damage and 5 patients presented with local wound infection. No cases of graft infection were observed. Major stroke incidence was 5.8% (n = 2). The 30-day mortality was 8.8% (n = 3). Single staged or two-stages procedures appeared not to have a significant impact on early mortality rate (p = 0.4). Mean (± SD) follow-up was 21 (± 15) months. Primary cumulative graft patency during follow-up was 97.1% and secondary patency was 100%.

CONCLUSION: Cervical debranching procedures showed excellent primary and secondary patency rates. High complication rates remain a concern, namely local bleeding requiring re-intervention. No differences were found between single staged or two-stages procedures regarding 30-day mortality rates.

CO 05 Implante de plugs vasculares no tratamento da síndrome de congestão pélvica pelo método gost: eficácia e segurança

Mário Vieira, Luís Vilaça, Ana Ferreira, Rodolfo Abreu, Roger Rodrigues, Rita Augusto, Pedro Garrido, Carlos Veiga, João Oliveira

ULS Braga

INTRODUÇÃO E OBJETIVO: A Síndrome de Congestão Pélvica (SCP) é uma causa comum de dor pélvica crónica com impacto significativo na qualidade de vida, especialmente em mulheres multíparas, com uma prevalência e incidência consideráveis. O tratamento endovascular é a primeira escolha, abrangendo uma gama de agentes e técnicas, desde autólogos a heterólogos, líquidos ou mecânicos. No entanto, fatores como a eficácia do tratamento, reações adversas, exposição à radiação e contraste, artefactos de imagem e risco de embolia pulmonar estão associadas às técnicas atualmente em uso. Os autores relatam a experiência institucional do uso de plugs vasculares no tratamento endovascular da SCP.

MÉTODOS E RESULTADOS: Entre setembro de 2019 e fevereiro de 2024, 55 pacientes do sexo feminino foram tratadas com sucesso utilizando o método GOST para SCP, com uma taxa de sucesso de 100%. Destas, 35 (64%) foram diagnosticadas com SCP tipo 1, enquanto as restantes tinham SCP tipo 2. Foram utilizados um total de 130 plugs vasculares no tratamento, sendo 9 na veia gonadal direita, 1 na veia ilíaca interna direita e 9 na esquerda, com os restantes 111 na veia gonadal esquerda. O diâmetro máximo do plug foi de 22mm na veia ilíaca e 20mm na veia gonadal, com um mínimo de 10mm nesta última. O sobredimensionamento do plug variou entre 50% e 100%, sendo mais pronunciado nas veias ilíacas. Não foram registadas roturas venosas, tromboses agudas de eixos não tratados, embolias pulmonares ou reações alérgicas. Nos pacientes submetidos a tomografias computorizadas, tanto dirigidas como oportunistas, não foram identificadas migrações ou artefactos de imagem.

CONCLUSÃO: TO uso de plugs vasculares na técnica GOST apresenta-se como uma alternativa segura e eficaz em comparação com outros métodos de oclusão mecânica, como os coils. A sua facilidade de implantação, controlo e precisão no destacamento, bem como a diminuição do tempo de procedimento, radiação e volume de contraste, são vantagens significativas no tratamento da SCP, tendo em conta a idade dos doentes, sexo, variação de anatomia e diâmetros nos eixos venosos..

CO 06 Chronic limb-threatening ischemia under 50 years of age – a single-center 12-year retrospective study

Inês Gueifão, Anita Quintas, Rita Soares Ferreira, Fábio Pais, Tiago Ribeiro, Joana Cardoso, Helena Fidalgo, Adriana Figueiredo, Carolina Tavares, Gonçalo Araújo, Maria Emília Ferreira

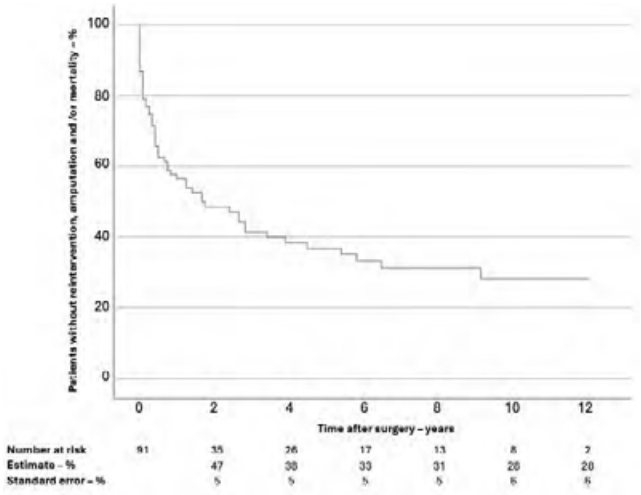
Hospital de Santa Marta - ULS São José; NOVA Medical School - Universidade Nova de Lisboa

INTRODUCTION: Premature peripheral artery disease (PAD), defined as occurring before or at the age of 50, is a poorly studied subset of PAD due to its low incidence. It has been associated with a higher risk of progression to chronic limb-threatening ischemia (CLTI), major adverse limb events and mortality. Etiology is multifactorial with genetics and environmental causes at play, with the most common risk factors being smoking, diabetes and hypertension.

METHODS: WSingle-center retrospective study conducted in a Portuguese tertiary care center, including all patients 50 years-old or under submitted to a revascularization procedure for CLTI from May 2011 to November 2023. Baseline characteristics, peri-procedural and follow-up data were obtained. The primary endpoint is a composite outcome of reintervention, amputation and/or death. The secondary endpoints are reintervention, amputation and death rates and amputation-free survival (AFS).

RESULTS: A total of 91 patients were included (74% male, median age 48 years). Most common risk factors were smoking (69%), diabetes (45%) and hypertension (44%). Most patients presented with ulceration or gangrene – Fontaine grade IV (79%) vs rest pain – Fontaine grade III (21%). 32 patients (35%) had aortoiliac lesions, while 38 (42%) had femoropopliteal and 21 (23%) had infrapopliteal disease. During median follow-up period of 7.42 years (IQR 4.25-10.33), 57 patients (63%) underwent reintervention, amputation and/or died. The rate of reintervention was 40%, while amputation was performed on 25% of patients and 29% of patients died. Median AFS was 4.7 years (IQR 0.75-7.76). A subgroup analysis comparing diabetic and non-diabetic patients revealed the diabetic subgroup had higher rates of hypertension (59% vs 32%, p=.011) and chronic kidney disease under hemodialysis (22% vs 6%, p=.025) but lower rates of smoking (49% vs 86%, p<.001). 30-day amputation rate was significantly higher in diabetics (12% vs 2%, p=.05) but there were no significant differences in both primary and secondary endpoints.

CONCLUSION: Premature CTLI is associated with poor outcomes, with a high mortality rate and most patients undergoing reintervention or amputation. Further studies are needed to identify possible non-traditional target risk factors to improve outcomes in this young population.



CO 07 Outcomes after open and endovascular chronic mesenteric ischemia revascularization –10-year single center experience

Helena Fidalgo, Tiago Ribeiro, Fábio Pais, Joana Cardoso, Carolina Tavares, Ricardo Correia, Daniela Gonçalves, Maria Emília Ferreira

Hospital de Santa Marta

INTRODUCTION: Chronic mesenteric ischemia (CMI) is a rare but life-threatening disease. The objective of this study was to analyze the safety and effectiveness of open (OR) and endovascular (ER) revascularization modalities and respective outcomes in a consecutive series of CMI patients.

METHODS: From 2013 to 2023, all CMI patients treated with OR and ER were retrospectively identified. Demographics, comorbidities, clinical presentation, preoperative imaging and revascularization modalities were analyzed. Patients were grouped according to the type of revascularization (OR and ER) and compared for the study's endpoints. Primary endpoint was the reintervention rate and the secondary endpoint was overall survival.

RESULTS: Thirty-three patients (60% male, mean age 67, range 45-88 years) were treated by ER (27 patients) or OR (6 patients) for CMI. The median follow-up was 38 (9-72) months. Abdominal angina was the most common symptom, ongoing for at least 6 months in 64% of the patients. The ER of the SMA included the deployment of covered balloon-expandable stents in 85 % (n=23) of the patients. The OR included SMA bypass using prosthetic conduit and iliac artery inflow in 83 % (n=5) of the patients. Ostial and long superior mesenteric artery lesions (>20mm) were present in 100 % of the OR group patients and in 46 % of the patients in the ER group (p=0.027). There was no significant difference for multivessel disease presentation between groups (OR 60% vs ER 61%; p=0.976). Reintervention due to symptom recurrence and target artery restenosis was performed in 4 patients in the ER group, of which one patient underwent open surgery and three underwent endovascular surgery. High-grade stenosis and occlusions of the superior mesenteric artery were associated with higher reintervention rates in the ER group (p=0,047). There were no reinterventions in the OR group. Three-year reintervention rate was 18% in the ER and 0% in the OR group (p=0.374). Thirty-day and 3-year overall survival in the OR and ER groups were respectively:
67%
vs
. 93% and 44%
vs.
87% (p=0.015).

CONCLUSION: According to this study, we should expect lower survival in CMI patients that undergo OR, due to undefined reasons. However, the higher survival seen after ER should be counterbalanced with a trend to higher reintervention rates.

SESSÃO MELHOR COMUNICAÇÃO ORAL 2

CO 08 Covered versus uncovered stents for malignant superior vena cava syndrome: a systematic review and meta-analysis

Francisco Basilio, Andreia Pires Coelho, Ricardo Gouveia, Nuno Coelho, João Peixoto, Luís Fernandes, Roberto Boal, Marta Machado, Patricia Carvalho, Beatriz Guimarães, Alexandra Canedo

ULSGE

INTRODUCTION: In recent years, endovascular stenting has emerged as a promising palliative therapeutic modality for carefully selected patients with Superior Vena Cava Syndrome (SVCS) secondary to intra-thoracic malignancies. However, lack of data hinder procedure standardization, particularly regarding the dichotomy covered versus uncovered stents.
This study aims to compare the outcomes of malignant SVCS treated with covered versus uncovered stents. To the best of our knowledge, no past review has directly attained this dichotomy in malignant SVCS.

METHODS: A systematic review and meta-analysis were performed based in the PRISMA guidelines.

RESULTS: Our search yielded 17 studies, encompassing a total of 1123 participants (109 submitted to covered stents and 1014 to uncovered stents). Only four studies compared directly covered versus uncovered stents in malignant SVCS.
Technical success was very high in covered and uncovered stents: pooled data 100% (95% confidence interval – CI not estimable – NE) versus 97.9% (95% CI 96.5-99.3), respectively. A single study compared clinical success with a trend towards best results in the covered group but was not significant: OR 1.59 (95% CI 0.25-10.13). Complication rate was 0% (95% CI NE) versus 6.2% (95% CI 0.6-11.8) and re-intervention rate was 1.7%

(95% CI 0.0-28.2) versus 9.0% (95% CI 2.7-15.4) for covered and uncovered stents.
A single study directly compared primary patency between groups, with no difference at one month: OR 1.03 (95% CI 0.06-17.09). However, the difference became statistically significant at 6 and 12 months favoring covered stents: OR 8.75 (95% CI 1.79-42.67) and OR 19.56 (95% CI 4.08-93.82), respectively.
Pooled primary patency at 12 months was 90.9% (95% CI 45.9-100) and 77.1% (95% CI 46.0-100) for covered and uncovered stents, respectively.

CONCLUSION: In malignant SVCS the vena cava's low pressure and cancer-induced hypercoagulable state make it prone to both tumor compression and thrombus formation, leading to obstruction.
Our findings suggest that endovascular placement of covered stents represent a promising approach with superior primary patency rates (versus uncovered). However, limited data from heterogeneous studies hinders definite conclusions and further investigation is necessary.

CO 09 Low profile versus standard profile endograft for thoracoabdominal and complex abdominal endovascular aortic treatment – single center cohort study

Tiago Magalhães[1], Ryan Gouveia e Melo[1], Ruy Fernandes e Fernandes[1], Joana Asseiro[2], Luís Mendes Pedro[1]

[1] Serviço de Cirurgia Vascular, Unidade Local De Saúde Santa Maria,
[2] Faculdade de Medicina da Universidade de Lisboa

INTRODUCTION: Endovascular repair with fenestrated and branched endografts has revolutionized the treatment of complex abdominal aortic aneurysm (CAAA) and thoraco-abdominal aortic aneurysms (TAAA), with optimal results. Additionally, the introduction of low-profile graft proved to be a useful option despite all concerns.

OBJECTIVE: In this retrospective, single-center study we aimed to compare the outcomes of standard-profile (SP) stent grafts versus low-profile (LP) stent grafts in patients treated for CAAA and TAAA.

METHODS: A single-center cohort study based on a retrospective analysis of consecutive patients admitted for treatment of TAAA and CAAA using fenestrated and/or branched endografts (2013-2024) was performed. Outcomes were compared in patients treated with LP versus SP fabric devices including procedural metrics, technical success, clinical complications, access-related complications, overall survival, stent-graft integrity issues, secondary interventions, sac enlargement and primary patency of target vessels.

RESULTS: A total of 168 patients were included in the study, with a mean age of 73 years (IQR: 67-77.5) and 88.7% were male. There were 79 TAAAs and 89 CAAAs, with median of 4 (IQR:3-4) vessels catheterized per patient. LP devices were used in 38 (22.6%) patients and SP devices were used in 130 (77.4%) patients. LP devices were used in a higher proportion in patients with previous aortic surgery (44.5% LP versus 18.5% SP, p= 0.001).
LP stent grafts were only used among custom made devices. Patients treated with LP devices had similar technical success (92.1% versus 95.3%, p=0.44). There were no significant differences in post-operative complications such as spinal cord ischemia, access-related complications and in-hospital mortality.
Overall, median follow-up period was 9.9 months (IQR: 2.3-41.9). Overall survival (HR 0.67; 95%CI: 0.30-1.59) and freedom from reintervention (HR 1.38, 95%CI:0.50-3.82) were similar between the two groups. Regarding persistent or any late endoleak type I and/or III, there were no statistically significant differences between LP stent grafts and SP stent grafts (p=0.28).

CONCLUSION: FB-EVAR with LP and SP was performed with similar rates of technical success and mortality. LP devices were used in more complex cases with previous aortic repairs. Considering long term outcomes, the two devices were identical, showing safety of LP compared to SP.

CO 10 Predicting frailty in dialysis access surgery using the 5-factor modified frailty index

Lara R. Dias, Leandro Nóbrega, Tiago Moura, Tiago Costa-Pereira, Joana Ferreira, Luís Coentrão, Armando Mansilha

Unidade Local de Saúde São João

AIMS: The 5-factor modified frailty index (mFI-5) is a simple tool that can be used to assess frailty. Frailty assessment is rarely reported when assessing outcomes after AV access construction. Our aim is to assess the utility of mFI-5 score in outcomes after autologous AV access construction.

METHODS: All patients assessed in our multidisciplinary outpatient clinic within a tertiary care center and submitted to primary (first) autologous AV access construction between April 2021 and June 2023 were included. AV grafts and patients without post-operative evaluation were excluded. Demographic variables, pre-operative and post-operative ultrasound evaluation and maturation were evaluated. The 5-factor modified frailty index (mFI-5) was calculated by adding the following factors: functional status, history of diabetes, chronic obstructive pulmonary disease, congestive heart failure, and hypertension. AV access maturation was defined as clinical and ultrasound maturation criteria, as evaluated by a nephrology consultant. Primary outcomes were the achievement of a mature primary autologous AV access. Secondary outcomes were additional procedures performed and type of access constructed.

RESULTS: A total of 261 patients were included, with 19 (7.3%) patients having mFI-5 score 0, 97 (37.0%) having score 1, 95 (36.2%) having score 2, 41 (15.6%) having score 3 and 9 (3.4%) having score 4. Patients with higher mFI scores were more likely to be older and to have a proximal AV access (braquicephalic or braquibasilic). AV access maturation was not associated with mFI-5 score, even after stratification by type of AV access created. A higher mFI-5 score was associated with decreased survival in patients submitted to AV access construction, with survival at 6-months of 100% for score 0, 97% for score 1, 96.4% for score 2, 84% for score 3 and 80% for score 4. On Cox regression, mFI≥3 remained an independent predictor for mortality during follow-up.

CONCLUSIONS: mFI-5 score can be a useful predictor for mortality after AV access construction, which can help decide the best type of access for each patient. This score was not associated with AV access maturation. Pre-operative evaluation and doppler ultrasound is paramount for optimizing outcomes after AV access construction

CO 11 The role of femoro popliteal calcification pattern on endovascular treatment steps

Gonçalo Araújo, Dr. Ricardo Correia, Dra. Maria Emília Ferreira

Hospital de Santa Marta

INTRODUCTION: Peripheral arterial calcification is generally most pronounced in the femoro-popliteal territory and the way in which calcification influences theendovascular revascularization procedure and its outcomes is not well defined. The aim of this study was to assess the influence of the degree of femoro-popliteal calcification in the endovascular treatment (EVT) of patients with peripheral arterial disease (PAD).

METHODS: Retrospective, single-center, comparative study. From January 2023 to February 2024, all patients with PAD who underwent EVT by a single operator as a first limb revascularization procedure for femoral-popliteal lesions were considered. The calcification pattern was assessed through a qualitative fluoroscopic and angiographic evaluation. According to the degree of calcification, the patients were grouped into : patients with mild to moderate calcification (MC) and patients with severe calcification (SC). Both groups were compared regarding the following endpoints. Primary endpoints were EVT steps: access (ipsilateral antegrade or contralateral retrograde, fluoroscopic or ultrasound-guided puncture), popliteal or below the knee (BTK) retrograde puncture, cross-lesion pathway (intraluminal or subintimal), definitive treatment modality (POBA, DCB, BMS) and closure technique. Secondary endpoints were rates of reintervention and amputation and overall survival.

RESULTS: The study included 45 patients, of which 18% (N=8) presented with intermittent claudication (IC) and 82% (N= 37) with chronic limb threatening ischemia (CLTI). The median time of follow up was 7 months. MC group included 71% (N=32) of the patients and SV group included 29% (N=13). The median femoropopliteal GLASS classification was 4 in both groups. The SC group had higher rates of subintimal cross-lesion (N=5/13 38,5% VS N=4/32,12,5% ; p=.048) and contralateral retrograde access (N=7/13, 53,8% VS N=7/32, 21,9% ; p=.03). No statistically significant differences were found between groups in rates of ultrasound guide puncture (p=.65), popliteal or BTK retrograde puncture (N=3/13, 23,1% VS N=3/32, 9,4% ; p=.22), definitive treatment modality (p=.70) or closure technique (p=.86). No statistically significant differences were found between groups in rates of reintervention (p=.97) and amputation (p=.86) and overall survival (p=.45). There weretwo major amputations in MC group (6.3%) and 1 in SV group (7.7%) after eleven months of follow-up.

CONCLUSIONS: In this cohort, calcification pattern was independently associated with the type of access used and the cross-lesion pathway, with SC group being statistically associated with contralateral retrograde access and subintimal cross-lesion pathway. The rates of reintervention and amputation and survival remained unaffected by the calcification degree in this sample.

CO 12 High-dependency unit care after assymptomatic carotid endarterectomy – a multicentric analysis

Beatriz Guimarães[1], Marina Dias Neto[2], Andreia Pires Coelho[3]

[1] ULS Gaia Espinho, [2] ULS São João, [3] ULS GE

INTRODUCTION: All asymptomatic patients benefit from 3-6 hours of neurological and intra-arterial blood-pressure (BP) monitoring following carotid endarterectomy (CEA). Only a minority of patients will benefit from prolonged stay in a high-dependency unit (HDU).
The aim of this study was to externally validate previously described predictive variables of postoperative need for prolonged HDU stay.

METHODS: To identify patients in need of prolonged HDU stay, a composite outcome (CO) was created including cardiac events, neurologic deterioration, postoperative aminergic/ventilatory support and prolonged use of intravenous (IV) BP control therapy. A retrospective study was performed in one centre: increased clamping time, systolic BP in the ward, systolic BP during pre-anaesthetic procedure, maximum intraoperative mean arterial pressure (MAP) and eversion technique were significant predictors for the CO.
We aimed to ascertain the validity of these factors in an independent population. Consecutive patients submitted to

asymptomatic CEA in the same period were retrospectively analysed in a second independent centre.

RESULTS: A total of 51 procedures were included (86.3% male; 69.2±7.9 years) and 11 (21.6%) presented the CO. The presence of diabetes was associated with higher incidence of the CO (p=0.011) and acetaminophen as intraoperative analgesia demonstrated an inverse correlation with the CO (p<0.001). Receiver operator characteristic (ROC) curve analysis of predictive factors revealed that intraoperative maximum MAP had a strong correlation with the CO (area under the curve – AUC – 0.739, p=0.017). The remaining variables also did not reach statistical significance.

CONCLUSIONS: In this multicentric analysis, the risk for CO development was consistently increased in patients that developed high BP intra-operatively, which highlights the need for scrupulous BP management to reduce potential complications.
However, we identified two previously unidentified associations: first, diabetics were more prone to develop the CO and probably more likely to benefit from a prolonged HDU stay. Second, acetaminophen as intraoperative analgesia could have a protective role against CO development.

CO 13 Splenic artery aneurysms: comparison of treatment outcomes- literature review and metanalysis

Marta Machado, Andreia Coelho, João Peixoto, Luís Fernandes, Roberto Boal, Francisco Basílio, Patrícia Carvalho, Beatriz Guimarães, Pedro Brandão, Alexandra Canedo

ULSGE

INTRODUCTION: Splenic artery aneurysms(SAA) are the most frequent (50-75%) abdominal visceral arterial aneurysms. However there is no general consensus on the best management approach. Our aim was to compare outcomes of different surgical treatments for SAAs.

METHODS: Online search was performed in the Medline database up to January 31st,2024. A sistematic review and meta-analysis was performed according to the PRISMA statement. Quantitative synthesis was performed using a two-stage method to combine Individual Patient Data and Agregated Data. The main outcomes were post-operative complications, reinterventions and mortality.

RESULTS: From 289 articles identified, 113 were included in qualitative synthesis and 94 in quantitative synthesis.
A total of 1042 patients were identified with 1151SAAs. 407(35.4%) aneurysms were submitted to open repair(OR) and 744(64.6%) to endovascular repair(ER). Patients who had undergone OR were significantly younger, more likely to be pregnant and to have a ruptured aneurysms(Figure1A). Mortality was higher in the OR group but due to noncomparability of included patients a subanalysis of ruptured(R) and non-ruptured(NR) aneurysms was performed.
Regarding R aneurysms, 10 (47.6%) were submitted to OR and theses patients were older(34.5+/-12.0 years versus 32.67+/- 10.1), with larger aneurysms (3.91+/-3.22versus 2.87+/-2.01).Post operative complications rate and length of stay was higher on OR(30% vs 9.1%; 10.4+-4.16 vs 7.5+-4.2). Reinterventions rate was 10% on OR and 9.1% on ER. Mortality was19.05% in OR versus 0 in the ER(Figure 1C)
Regarding NR aneurysms, 307/1040(29.5%)were submitted to OR. Patients undergoing ER were significantly older (54.84+-10.23vs 51.06+-12.52) (MD -5.58 (-10.06 to-1.1)) and had smaller aneurysms (5.6+/-3.24vs2.97+/-1.41) (MD 1.63(-0.21 to 3.47)) (Figure1B,2) Patients undergoing ER had higher risk of postoperative complications and reintervention but this difference was not significant due to study heterogeneity. Mortality rate was 0% in both groups(Figure 3)

CONCLUSION: Surprisingly in the NR-SAA, OR had lower morbidity than ER with no significant differences regarding mortality. OR was also the preferred option in larger R-SAA especially in pregnant women and larger aneurysms. Based in these results OR is still a strong option in both R and NR-SAA.
This is the first metanalysis comparing the results of OS and ET in NR-SAA. High volume registry data are still needed to ascertain the best treatment approach

Figure 1- Pooled analysis

A - Pooled analysis of all patients

	OR	ER
Age	43.4±13.4	49.9±13.9
Sex (male) % (95%CI)	34.5% (95% CI 16.1-52.8)	39.3% (95% CI 24.6-54.1)
Pregnancy % (95%CI)	30.7 (95%CI 9.7-51.8)	8.5% (95%CI 0.0-26.5)
Size	4.97±3.76	2.97±1.82
Symtomatic % (95%CI)	70.4 (95%CI 36.3-100.0)	39.2% (95% CI 17.0-53.5)
Rupture % (95%CI)	44.3 (95% CI 4.6-84.3)	5.1 (95%CI 0.0-12.1)
Reinterventions % (95%CI)	5.3% (95% CI 2.3-8.2%)	5.7% 95% CI 1.4-10.1)
Pos op complications% (95%CI)	4.7 (95%CI 0.0-9.8)	4.8 (95%CI 0.7-8.9)
Mortality % (95%CI)	23.0 (95% CI 0.0-96.3	0% (95%CI NE)

B - Pooled analysis of patients with NON rupture aneurysms

	NON rupture aneurysms	
	OR	ER
Age mean ± SD	51.06+-12.52	54.84+-10.23
Sex (male) % (95%CI)	36.5% (95%CI 13.8-59.2)	37.7% (95%CI 29.2-46.3)
Pregnancy % (95%CI)		8.5% (95% CI 0.0-17.4)
Size mean ± SD	5.6+/- 3.24	2.97+/-1.41
Reinterventions % (95%CI)	5.3% (95% CI 2.3-8.2%)	5.7% 95% CI 1.4-10.1)
Pos op complications % (95%CI)		
Mortality % (95%CI)	0% (95% CI NE)	ER 0%(95% CI NE)

C - Pooled analysis of patients with NON rupture aneurysms

	RUPTURE aneurysms	
	OR	ER
Age mean ± SD	34.5+/-12.0	32.67+/- 10.1
Sex (male) % (95%CI)	23.1% (95% CI 0-100)	18.2%
Pregnancy % (95%CI)	76.9 (95% CI 0.0-100	33.3 % (95% CI 0.0-100)
Size mean ± SD	3.91+/-3.22	2.87+/-2.01
Symtomatic % (95%CI)	100%	100%
Reinterventions % (95%CI)	NE	15.4% (95% CI 0.0-60.1)
Pos op complications % (95%CI)		
Mortality % (95%CI)	19.04	0

Figure 1 - Pooled analysis

A - Pooled analysis of all patients

	OR	ER
Age	43.4±13.4	49.9±13.9
Sex (male) % (95%CI)	34.5% (95% CI 16.1-52.8)	39.3% (95% CI 24.6-54.1)
Pregnancy % (95%CI)	30.7 (95%CI 9.7-51.8)	8.5% (95%CI 0.0-26.5)
Size	4.97±3.76	2.97±1.82
Symtomatic % (95%CI)	70.4 (95%CI 36.3-100.0)	39.2% (95% CI 17.0-53.5)
Rupture % (95%CI)	44.3 (95% CI 4.6-84.3)	5.1 (95%CI 0.0-12.1)
Reinterventions % (95%CI)	5.3% (95% CI 2.3-8.2%)	5.7% 95% CI 1.4-10.1)
Pos op complications% (95%CI)	4.7 (95%CI 0.0-9.8)	4.8 (95%CI 0.7-8.9)
Mortality % (95%CI)	23.0 (95% CI 0.0-96.3	0% (95%CI NE)

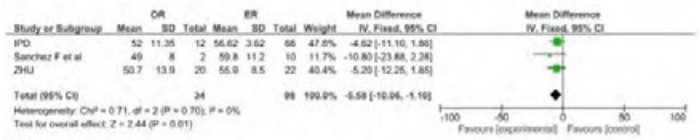
B - Pooled analysis of patients with NON rupture aneurysms

	NON rupture aneurysms	
	OR	ER
Age mean ± SD	51.06+-12.52	54.84+-10.23
Sex (male) % (95%CI)	36.5% (95%CI 13.8-59.2)	37.7% (95%CI 29.2-46.3)
Pregnancy % (95%CI)		8.5% (95% CI 0.0-17.4)
Size mean ± SD	5.6+/- 3.24	2.97+/-1.41
Reinterventions % (95%CI)	5.3% (95% CI 2.3-8.2%)	5.7% 95% CI 1.4-10.1)
Pos op complications % (95%CI)		
Mortality % (95%CI)	0% (95% CI NE)	ER 0%(95% CI NE)

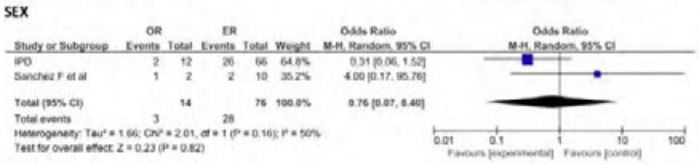
C - Pooled analysis of patients with NON rupture aneurysms

	RUPTURE aneurysms	
	OR	ER
Age mean ± SD	34.5+/-12.0	32.67+/- 10.1
Sex (male) % (95%CI)	23.1% (95% CI 0-100)	18.2%
Pregnancy % (95%CI)	76.9 (95% CI 0.0-100	33.3 % (95% CI 0.0-100)
Size mean ± SD	3.91+/-3.22	2.87+/-2.01
Symtomatic % (95%CI)	100%	100%
Reinterventions % (95%CI)	NE	15.4% (95% CI 0.0-60.1)
Pos op complications % (95%CI)		
Mortality % (95%CI)	19.04	0

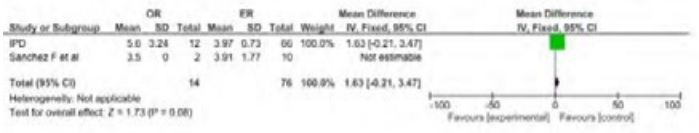
AGE



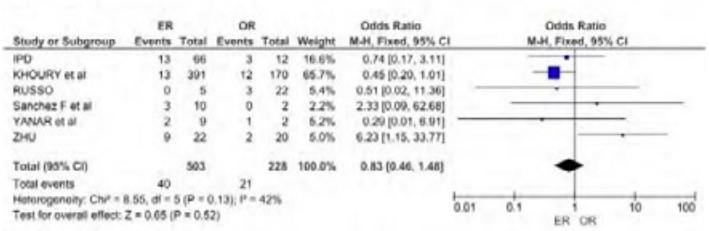
SEX



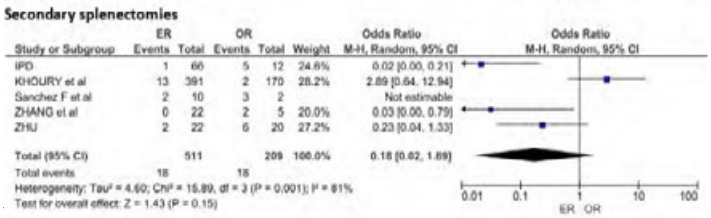
SIZE



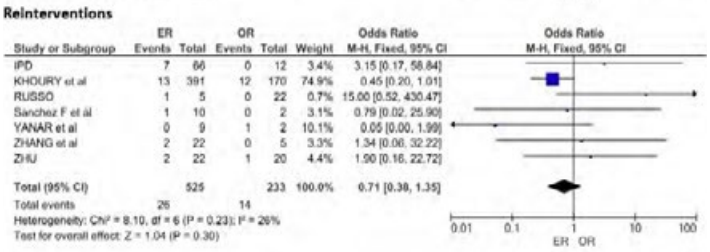
Pos operative complications



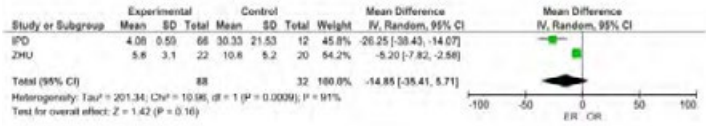
Secondary splenectomies



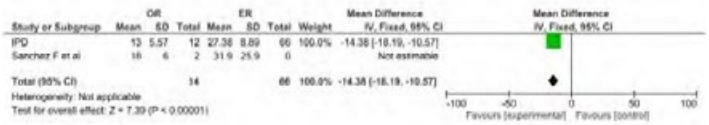
Reinterventions



Length of stay



Length of follow up



CO 14 A retrospective analysis on lumbar and inferior mesenteric artery impact on type II endoleaks

Eduardo Silva, Vânia Constâncio, Celso Nunes, Leonor Baldaia, Miguel Castro, Luís Orelhas, Maria Carmona, Joana Moreira, Manuel Fonseca

Centro Hospitalar e Universitário de Coimbra

Type II endoleaks (T2EL) are common complications after endovascular aneurysm repair (EVAR), which can lead to adverse outcomes such as aneurysm growth and reintervention. Despite evidence suggesting surveillance and conservative management for most T2EL, there's growing interest in prophylactic measures, including embolization of lumbar (LA) and inferior mesenteric arteries (IMA) during EVAR. This study aims to identify the impact

of LA and IMA on the development of T2EL after EVAR and associated risk factors.
A retrospective analysis was conducted on patients who underwent elective EVAR for infrarenal aortic aneurysms at our institution between January 2020 and December 2022, without embolization of LA or IMA. All patients had preoperative and 1 month post-operative computed tomography angiography. Demographics, aneurysm characteristics, LA and IMA patency and diameter were registered. Evidence of T2EL was assessed at 1 and 12 months after surgery, in addition to sac growth or shrinkage.
Fifty eight patients were included, with 18 (31%) exhibiting T2EL on follow-up. Mostly male (n=56), median age 75 years and mean aneurysm size 64.4 mm at the time of treatment. Aneurysm shape was associated with T2EL (p=0.039), with 62.5% of saccular aneurysms developing T2EL, whilst only 26% in fusiform aneurysms. Patients with T2EL had both higher number of total and patent covered LA than patients without, yet only patent covered LA achieved statistical significance for T2EL (p=0.195 and p=0.025, respectively). Additionally, T2EL showed significant association with covering > 3 patent LA (77.8%, p=0.020); similarly, IMA patency was associated with T2EL (100% vs 65% without T2EL, p=0.003). Presence of LA and IMA with ≥ 3 mm, mean diameter, as well as sum of combined diameters did not reach significance (p<0.05). Among the 18 patients with T2EL, 4 (22.2%) had sac growth at 12 months (5-10 mm) and 2 (11.1%) had sac shrinkage (> 5 mm), none of which required reintervention.
This study reveals a substantial incidence (31%) of T2EL following elective EVAR, emphasizing the importance of further understanding associated risk factors. Saccular aneurysm morphology, the presence of >3 patent covered LA, and patent IMA were identified as significant predictors of T2EL. While prophylactic embolization of LA and IMA may benefit certain patients, the lack of association between vessel diameter and T2EL warrants additional investigation to refine embolization strategies.

Variable, n (%)	Total n= 58 (100%)	Type II Endoleak n= 18 (31.03%)	No Type II Endoleak n= 40 (68.97%)	*p-value* (<0.05)
Age (years) Median (IQR)	75 (69-80)	74.5 (69-81)	75 (69-80)	0.850
Sex Male (%)	56 (96.55%)	17 (94.44%)	39 (97.5%)	0.563
Female (%)	2 (3.45%)	1 (5.56%)	1 (2.5%)	
Aneurysm Shape Fusiform (%)	50 (86.21%)	13 (72.22%)	37 (92.5%)	**0.039**
Saccular (%)	8 (13.79%)	5 (27.78%)	3 (7.5%)	
Aneurysm Size (mm) Mean (SD)	64.43 (14.03)	58.11 (8.38)	67.28 (15.09)	**0.021**
No. Covered LA Total; Mean (SD)	4.83 (1.97)	5.33 (1.86)	4.6 (1.97)	0.195
Patent; Mean (SD)	3.93 (2.44)	5 (2.21)	3.45 (2.39)	**0.025**
≥ 3 mm; Mean (SD)	1.61 (0.82)	1.20 (0.40)	1.92 (0.92)	0.879
< 3 mm; Mean (SD)	4.34 (2.15)	4.67 (2.16)	3.9 (2.10)	0.215
No. Patients with > 3 Patent Covered LA; n (%)	32 (55.17%)	14 (77.78%)	18 (45%)	**0.020**
No. Patients with ≤ 3 Patent Covered LA; n (%)	26 (44.83%)	4 (22.22%)	22 (55%)	
No. Patients with LA ≥ 3 mm; n (%)	23 (39.66%)	10 (55.56%)	13 (32.5%)	0.100
< 3 mm; n (%)	35 (60.34%)	8 (44.44%)	27 (67.5%)	
Total LA Diameter Average Diameter (mm); Mean (SD)	2.18 (0.48)	2.22 (0.54)	2.16 (0.44)	0.676
Total Diameter – Sum (mm); Mean (SD)	10.09 (3.99)	11.17 (3.59)	9.60 (4.07)	0.173
Inferior Mesenteric Artery Patent IMA; n (%)	44 (75.86%)	18 (100%)	26 (65%)	**0.003**
IMA ≥ 3 mm; n (%)	27 (46.55%)	9 (50%)	18 (45%)	0.730
IMA Diameter (mm); Mean (SD)	2.57 (0.72)	2.61 (0.76)	2.55 (0.71)	0.770
Total Combined Diameter Sum (LA + IMA) (mm); Mean (SD)	12.66 (4.08)	13.78 (3.69)	12.15 (4.14)	0.165

LA – Lumbar Artery; IMA – Inferior Mesenteric Artery; IQR – Interquartile range; SD – Standard deviation

CO 15 Reconciliação terapêutica e intervenção farmacêutica num serviço de angiologia e cirurgia vascular

Ana Telma Leal[1], Teresa Cunha[1], Carlos Veterano[2], Paula Barbeita[1], António Mendes[1], Patrocínia Rocha[1], Rui Machado[2]

[1] Serviços Farmacêuticos, Unidade Local de Saúde de Santo António,
[2] Serviço de Angiologia e Cirurgia Vascular, Unidade Local de Saúde de Santo António

INTRODUÇÃO: A Reconciliação Terapêutica (RT) permite reduzir potenciais Erros de Medicação (EM), que ocorrem maioritariamente na transição de cuidados: admissão, transferências e alta. Em Portugal são escassos os hospitais que beneficiam de RT, apesar da importância das Intervenções Farmacêuticas (IF) para prevenir EM, Reações Adversas a Medicamentos (RAM) e interações farmacológicas. Neste trabalho apresentam-se os resultados da implementação da RT num serviço de angiologia e cirurgia vascular.

OBJETIVOS: AAvaliar as discrepâncias nas Prescrições Médicas (PM) de doentes internados no serviço, aplicando a RT. Avaliar as IF executadas, a sua aceitação e a opinião dos médicos.

MÉTODOS: RT executada na admissão de doentes (<48h) durante 7 meses, segundo critérios de inclusão definidos. Elaboração da Best Possible Medication History e comparação com a PM. Classificação das discrepâncias e discussão das IF junto do médico. Distribuição de um inquérito de opinião sobre a perceção dos resultados.

RESULTADOS: Executadas 231 RT (n=239 doentes), com 3453 PM analisadas. Encontradas 2682 discrepâncias: 24,8% não intencionais. Origem: omissão de substância ativa (SA) (62,3%), dose (16,6%), posologia (6,9%) inadequadas. A resolução implicou 884 IF com 90,5% de aceitação pelos médicos. Detetaram-se 398 interações farmacológicas e 37 RAM com 26 IF independentes. A opinião dos médicos (n=18) revela que 83,3% concordam totalmente que as IF contribuem para melhorar os cuidados ao doente e que a RT contribui para a diminuição de chamadas nos períodos de urgência (83,4% concorda totalmente ou concorda). A presença diária de um farmacêutico no serviço é considerada indispensável ou vantajosa por 94,5% e a existência de RT indispensável por 61,1%.

CONCLUSÃO/DISCUSSÃO: A RT permitiu reduzir um número considerável de EM (>90% das IF aceites). A presença de um farmacêutico proporcionou IF noutras situações clínicas, sendo que os médicos tiveram perceção de **"menos descompensações das patologias de base"** e **"altas mais precoces"**. Consideram que o processo implementado permitiu a **"otimização de recursos e tempo"** dando uma **"sensação de segurança na prescrição"**, permitindo **"libertar a equipa de urgência para outras atividades importantes"** devido a **"menos chamadas por descompensações"**. Na ótica dos médicos de Cirurgia Vascular, **"seria importante manter esta colaboração no futuro"**, bem como "manter apoio permanente" e entendem que se deveria **"expandir às restantes especialidades"**.

SESSÃO MELHOR COMUNICAÇÃO ORAL 3

CO 16 Open repair of type IV thoracoabdominal aortic aneurysms: a real-world experience in the endovascular era

Marta Romão Rodrigues, Tiago Magalhães, Ryan Gouveia e Melo, Luís Silvestre, Ruy Fernandes e Fernandes, Emanuel Silva, Pedro Amorim, Augusto Ministro, Carlos Martins, Luís Mendes Pedro

Hospital de Santa Maria - ULSSM

INTRODUCTION: Type IV thoracoabdominal aortic aneurysms (TAAA-IV) are treated nowadays by endovascular techniques in most cases. However, in selected patients, there is still a role for open surgery with published mortality rates of 7-11% and an additional high rate of post-operative complications.The aim of this paper is to present a descriptive analysis and outcome evaluation of open repair for TAAA-IV in our institution, where the first line treatment option is endovascular.

METHODS: An observational, descriptive and retrospective cohort analysis of all patients treated for asymptomatic TAAA-IV included patients treated in the last 15 years (2008-2023), collecting demographic data, comorbidities, procedure protocols, complications and mortality rates/causes.

RESULTS: The initial cohort included 38 patients. Ten emergent cases were excluded as well as 4 due to inconsistent records, with a final population of 24 patients. Twenty-two were men (91.6%), with a mean age of 68years (SD 7.6) and the mean aortic diameter was 69.6mm (SD 15.3). All patients were submitted to paramedian laparotomies with medial visceral rotation. The approach to visceral and renal arteries varied, mostly due to the left renal (bypass-7, abandoned due to atrophied kidneys-2, re-implanted-13, others-2). The mean length of hospital and ICU stay was 34.1 and 14.5 days respectively.The most frequent complication was acute kidney injury (AKI) in 87.5%, being transient in 75%. Hemodialysis was needed in 21%, permanently only in 4.1%. Infectious complications occurred in 29.1%, mainly lower respiratory infections (16.6%). Two patients (8.3%) had cardiac complications (AMI and non-ischemic cardiogenic shock). The overall intra-hospital mortality rate was 21.7% (5/23), with the following time frame: intra-operative-2; first 24hours-1; at 30days-1; over 30 days-1. The main limitations of the study are the use of different treatment strategies over a long time-period, reporting bias and the small sample size.

CONCLUSION: In this low-volume cohort, treated over a long time-period, a high mortality rate was observed which may confirm the dependence between results and surgical/post-operative care volume and experience. AKI was the most frequent complication, being transient in most cases.Finally, we deem it important to report the results of open repair, thereby raising the issue of how to manage small cohorts of patients requiring open repair in an era where such cases are becoming increasingly rare.

CO 17 Radiofrequency neurolysis of the paravertebral sympathetic chain: a single-centre retrospective analysis

Samuel Cardoso, Carlos Pereira, Miguel Queirós, João Diogo Castro, Henrique Almeida, Henrique Rocha, Andreia Pinelo, Rui Machado

Unidade Local de Saúde de Santo António

INTRODUCTION: Lumbar sympathectomy, once a traditional and popular technique in vascular surgery in the past, has significantly declined in relevance with the development of direct revascularization techniques. The ability to achieve a definitive effect of sympathetic chain interruption at various levels through a minimally invasive approach may renew interest in sympathectomy beyond its current restricted indications. Currently, the benefits include a complementary treatment for ischemic patients and potentially extending sympathectomy indications to other conditions where conventional surgery is less appealing.

METHODS: We conducted a systematic review of the literature through PubMed and Embase databases using PICO-based keywords: (ocular ischemia OR ocular hypoperfusion*) AND (carotid endarterectomy* OR carotid surgery*) AND (outcomes*). PRISMA guidelines were followed. After removing duplicates and screening, 9 were selected for inclusion through meticulous review and reference list examination. The primary outcome assessed postoperative visual improvement, while the secondary outcome focused on ocular blood flow augmentation.

RESULTS: The impact of CEA on visual functions and ocular blood flow in patients with OIS has been investigated across multiple studies. Clouse, W. et al reported that patients with OIS and symptomatic eyes had worse ipsilateral internal carotid artery stenosis (p=0.004). Subjective visual improvement or stabilization following CEA was observed in 40-100% of the symptomatic patients across the studies. Regarding the impact of CEA on ocular blood flow (OBF) and visual function in patients with carotid disease, the peak systolic velocity (PSV) increased significantly in the orbital artery (OA) and central retinal artery (CRA), after CEA ($p<0.0001$ - $p<0.05$). Cohn E. et al showed that patients with OIS had significantly lower preoperative PSVs in the CRA as compared with those patients without visual symptoms ($p=0.02$). In one study comparing CEA and medical therapy for patients with OIS and significant carotid disease, Yan Y. et al found that CEA was significantly more effective ($P<0.05$).

CONCLUSION: CEA can improve visual function and alleviate ocular hypoperfusion-related symptoms in patients with carotid artery stenosis. The findings highlight CEA's potential as a therapeutic intervention for enhancing visual outcomes in these patients. Further research is needed to determine specific indications for CEA in patients with OIS.

CO 18 Carotid revascularization for ocular ischemic syndrome: systematic review

Leonor Baldaia, Miguel Silva, Eduardo Silva, Celso Nunes, Luís Orelhas, Maria Carmona, Luís F. Antunes, Manuel Fonseca

Centro Hospitalar e Universitário de Coimbra

AIMS: The link between extracranial carotid artery disease and visual symptoms is well-established, with amaurosis fugax as a precursor to retinal transient ischemic attacks (TIAs). However, not all visual symptoms are embolism-related. Ocular ischemic syndrome (OIS) due to hypoperfusion is another potential consequence. We aim to study the potential improvement of visual symptoms post-carotid endarterectomy (CEA) in patients with carotid stenosis and hypoperfusion-related ocular issues.

METHODS: We conducted a systematic review of the literature through PubMed and Embase databases using PICO-based keywords: (ocular ischemia OR ocular hypoperfusion*) AND (carotid endarterectomy* OR carotid surgery*) AND (outcomes*). PRISMA guidelines were followed. After removing duplicates and screening, 9 were selected for inclusion through meticulous review and reference list examination. The primary outcome assessed postoperative visual improvement, while the secondary outcome focused on ocular blood flow augmentation.

RESULTS: The impact of CEA on visual functions and ocular blood flow in patients with OIS has been investigated across multiple studies. Clouse, W. et al reported that patients with OIS and symptomatic eyes had worse ipsilateral internal carotid artery stenosis (p=0.004). Subjective visual improvement or stabilization following CEA was observed in 40-100% of the symptomatic patients across the studies. Regarding the impact of CEA on ocular blood flow (OBF) and visual function in patients with carotid disease, the peak systolic velocity (PSV) increased significantly in the orbital artery (OA) and central retinal artery (CRA), after CEA (p<0.0001 - p<0.05). Cohn E. et al showed that patients with OIS had significantly lower preoperative PSVs in the CRA as compared with those patients without visual symptoms (p=0.02). In one study comparing CEA and medical therapy for patients with OIS and significant carotid disease, Yan Y. et al found that CEA was significantly more effective (P<0.05).

CONCLUSION: CEA can improve visual function and alleviate ocular hypoperfusion-related symptoms in patients with carotid artery stenosis. The findings highlight CEA's potential as a therapeutic intervention for enhancing visual outcomes in these patients. Further research is needed to determine specific indications for CEA in patients with OIS.

CO 19 Friend or foe? Clinical implications of type 2 diabetes in aortic events and SAC dynamics after endovascular repair

António Duarte[1], Hugo Fabian Gonçalves[2], Ryan Gouveia e Melo[1], Pedro Amorim[1], Ruy Fernandes[1], Luís Mendes Pedro[1]

[1] Unidade Local de Saúde Santa Maria, [2] Faculdade de Medicina da Universidade de Lisboa

INTRODUCTION: Although there was a decline in the incidence of abdominal aortic aneurysms (AAA) over the last 2 decades, this condition carries high mortality rates when symptomatic or ruptured. Paradoxically, diabetes seems to confer a lower risk of AAA progression or rupture. However, there is few contradicting data regarding a potential benefit in the postoperative setting. The aim of this study is to evaluate the impact of diabetes in sac dynamics and aortic outcomes after EVAR.

MATERIAL AND METHODS: We performed a retrospective cohort study with consecutively enrolled patients who underwent EVAR for AAA at a tertiary center between January 2013 and April 2022. Patients were categorized according to the presence of type 2 diabetes. The primary outcome was the incidence rate of aortic events, i.e., aortic reinterventions, rupture and related mortality. Secondary outcomes comprised overall mortality and sac dynamics (endoleak rate and sac diameter variation) during follow-up. Pearson's Chi-squared test was performed for incidences of the primary and secondary endpoints. Survival analysis was performed with follow-up time reported in months. Multivariate analysis was performed through Cox proportional regression in a step-forward fashion to adjust for competing factors (sex, age, hypertension, smoking habits, dyslipidemia).

RESULTS: 381 patients were included in this cohort, of which 82 (21%, 95% CI 17.5-26) were diabetic. Patients were followed up for a mean period of 27.24 ± 24.85 months. Diabetic patients had a higher prevalence of dyslipidemia (91.4 vs 74.3%; p < .001) and hypertension (95.1 vs 85.1%; p .016). Most patients were on oral antidiabetics (86.6%), mostly under metformin (62.1%) or DPP-IV inhibitors (30.5%). 9% of all diabetics were taking insulin. Regarding the primary outcome, diabetic patients had a non-significant trend for a higher incidence of aortic events, especially after 12 months (crude HR 1.55 (.83–2.91) and adjusted HR 1.44 (.74-2.81)). Mortality rates were significantly higher in diabetic patients (adjusted HR 1.86; p .02). Regarding sac dynamics, diabetes did not impact on sac shrinkage (-4 IQR [-9;0] vs -4 IQR [-11;0] p .61) or in endoleak rate (20.5% vs. 17.5%, p = .55).

CONCLUSION: While diabetes seems to slow AAA progression, this condition seems to have a negative trend after EVAR, with a higher rate of aortic events and overall mortality. Further studies should evaluate the interplay of diabetes and AAA in this setting.

CO 20 A home-based exercise therapy program via smartphone app - the walkingpad trial

Henrique Almeida[1], João Cabral[1], Célia Sofia Moreira[2], Rafaela Oliveira[1], Carlos Veiga[3], Luís Moreira[4], Daniel Santarém[4], Daniel Guedes[4], Hugo Paredes[4], Susana Pedras[1], Ivone Silva[1]

[1] Angiology and Vascular Surgery Department, Unidade Local de Saúde Santo António, [2] Centre of Mathematics & Faculty of Sciences, University of Porto, [3] Unidade Local de Saúde Braga, [4] Universidade de Trás-os-Montes e Alto Douro

AIM: To investigate whether a home-based exercise therapy program with a behavior change intervention, supported or not by a smartphone application is effective in improving walking distances and performance, as well as QoL over 6 months.

METHODS: Single-center, prospective, two-arm, single-blinded randomized controlled trial including 73 patients with peripheral artery disease (PAD) and intermittent claudication (IC), with assessments at baseline (T1), 3-month follow-up (T2), and 6-month follow-up (T3). Enrollment occurred between March 2021 and July 2022. Participants were randomized to receive a walking exercise prescription, to be performed 3 times a week for at least 30 minutes, with the support (n=38) or without the support (n=35) of an app – the WalkingPad app. Both groups received two face-to-face behavior change sessions and 12 structured and targeted reinforcement phone calls over 6 months. Primary outcomes were between-group differences in pain-free walking distance (PFWD), functional walking distance (FWD), maximal walking distance (MWD), and 6-minute walk distance (6MWD) at 3 and 6 months. Minimal clinically important differences were defined for each primary outcome. Secondary outcomes were QoL measured through the VascuQoL-6 and SF12, and walking impairment measured with the WIQ.

RESULTS: 73 patients, with a mean age of 64 ± 7.2 years and 88% men, participated, and 60 completed all assessments. The whole sample improved significantly all primary outcomes in the first 3 months: average MWD (171.1 m), PFWD (151.1 m), and FWD (175.2 m), as well as 6MWD (30.8 m), increased from T1 to T2. From the first to the second follow-up, only MWD exhibited a significant average increase (35.0 m). Secondary outcomes also increased from baseline to 3 and 6 months. There were no between-group differences, except for MWD, which showed a greater increase at 6 months in the app group, excluding patients with weak walking ability and with extreme anxiety symptoms at baseline.

CONCLUSION: The intervention improved distances and walking skills as well as the physical, mental, and disease-related quality of life among adults with PAD and IC. The WalkingPad app proved to be effective for patients with high walking ability (IC>170,1m) and no severe anxiety symptoms. Further research is warranted to assess the durability of these findings and explore the potential of incorporating GenAI, machine learning and IoT in the app to influence patient adherence and outcomes.

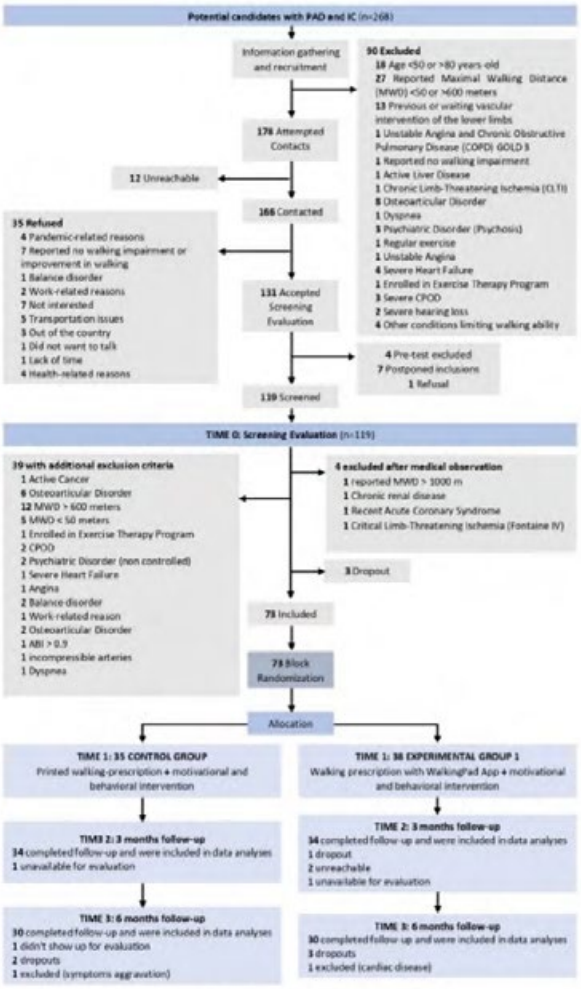
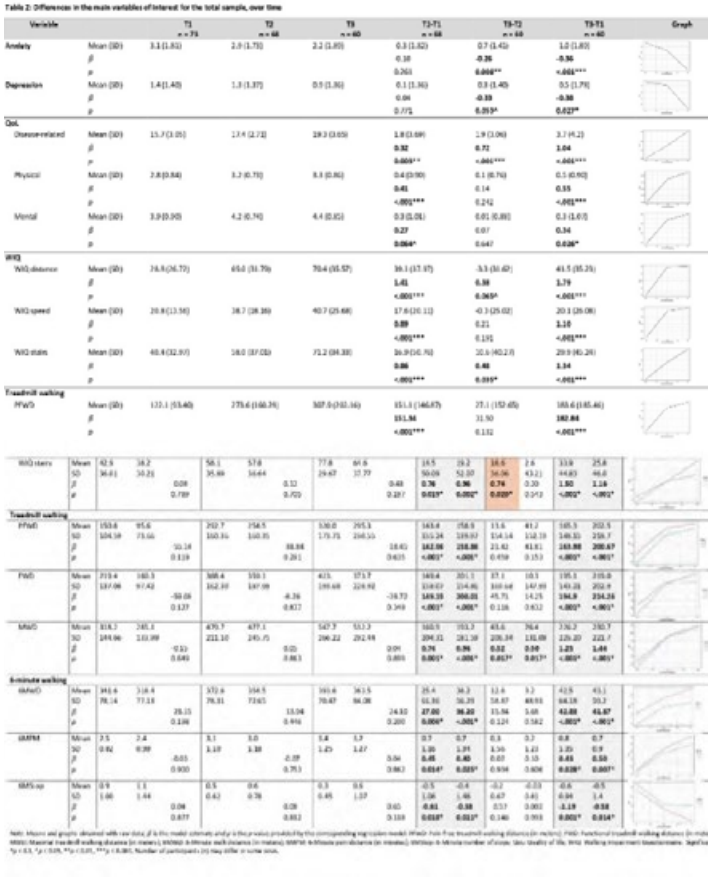


Figure 1. Flow of Participants Through the WalkingPad Randomized Clinical Trial



CO 21 The challenging management of acute mesentéric ischemia - too frail or too late?

Andreia Pinelo, Luis Loureiro, Henrique Rocha, João Castro, Henrique Almeida, Miguel Queirós, João Cabral, Samuel Cardoso, Rui Machado

Centro Hospitalar Universitário de Santo António

INTRODUCTION: Acute mesenteric ischemia (AMI) presents a life-threatening medical and surgical emergency, requiring a high degree of suspicion for timely diagnosis. Despite advancements in diagnosis and management, in-hospital mortality rates remain high. This study aims to assess the outcomes of acute management of AMI.

METHODS: A retrospective single-center analysis of all patients undergoing emergent surgery for occlusive AMI between January 2020 and February 2024 was conducted. Demographic, clinical, and procedure-related data were obtained from patient files. Evalutation of the 30-day survival rates was the primary outcome.

RESULTS: Thirty patients, with a mean age of 79.7 years, underwent emergent surgery for occlusive AMI. The median time of symptom evolution was 48 hours [12 – 96], and the mean time from diagnosis to surgery was 1.8 hours [0.5 – 6]. It was identified an embolic cardiac source in 14 (46.7%) patients. Ten patients underwent endovascular approach, 12 patients had open surgery, and eight patients underwent a hybrid procedure with surgical thrombectomy and retrograde stenting of the superior mesenteric artery. Enterectomy was performed in five patients during the initial surgical approach and in three patients during the second-look laparostomy. The overall 30-day survival rate was 33.3% with no statistical difference between subgroup analysis of the ethiology or approach. Pre-operative arterial HCO3/lactate ratio ≤ 10 and neutrophil-lymphocyte ratio > 16 correlated with mortality survival, showing 83% and 59% sensitivities, respectively, and 100% specificity to predict 30-day mortality.

DISCUSSION: DThe emergent multidisciplinary approach is now the standard of care for AMI. However, the limiting step remains the recognition of the disease, with a significant delay from symptom onset to diagnosis. The neutrophil-lymphocyte ratio has been proposed as a diagnostic and prognostic marker in AMI. While the HCO3/lactate ratio has not yet been described, it may serve as a more sensitive and specific predictor of mortality than lactate alone, as it reflects not only the ischemic process but also the inability to compensate for metabolic imbalances and potential impending organ failure. These results underline the need for rapid diagnosis and management, proposing two markerd that may allow a better patient-tailored approach.

CO 22 GOST – Gonopelvic Obliteration by Stasis Technic. Resultados a 4 anos da técnica piloto no tratamento endovascular do sindrome de congestão pélvica

Mário Vieira, Luís Vilaça, Ana Ferreira, Rodolfo Abreu, Roger Rodrigues, Rita Augusto, Pedro Garrido, Carlos Veiga, João Oliveira

ULS Braga

INTRODUÇÃO E OBJETIVO: A síndrome de congestão pélvica (SCP) é uma fonte de dor pélvica crónica que impacta significativamente a qualidade de vida, predominantemente em mulheres multíparas em idade reprodutiva, com uma incidência anual de aproximadamente 5%. Cerca de 15 a 20% das mulheres entre 18 e 50 anos sofrem de dor pélvica crónica, com 30% delas apresentando varizes pélvicas. O tratamento endovascular é a ção de primeira linha, não havendo contudo consenso na técnica e materiais a utilizar. Os autores relatam a experiência institucional com uma técnica piloto para o tratamento endovascular da SCP: técnica GOST.

MÉTODOS E RESULTADOS: Entre setembro de 2019 e fevereiro de 2024, 55 pacientes do sexo feminino, diagnosticadas com SCP, foram submetidas a tratamento endovascular. Dessas, 35 (64%) apresentaram SCP tipo 1, enquanto as restantes tinham tipo 2. O procedimento de embolização foi realizado em 80% das pacientes em apenas um eixo, sendo a veia gonadal esquerda a mais comum. A embolização das varizes pélvicas seguiu um protocolo que incluiu flebografia, identificação do refluxo e pontos de escape pélvicos, seguida pela técnica GOST. Esta técnica envolve o uso de um plug vascular e microcateter sob bainha, seguido pela injeção lenta de espuma de polidocanol para esclerose das varizes. O tempo médio de embolização foi inferior a 10 minutos e fluoroscopia de 5 minutos. Não foram registradas complicações de embolia, toxicidade pulmonar, reações alérgicas ou recidivas durante um período de acompanhamento máximo de 53 meses.

RESULTADOS: A técnica GOST é uma abordagem mecânico-química simples de embolização venosa pélvica por estase proximal, demonstrando resultados robustos a longo prazo. Este estudo representa a primeira apresentação desta técnica piloto inovadora, mostrando alta eficácia e segurança no tratamento da SCP.

COMUNICAÇÕES RAPID-PACE 1

CR 01 Distal bypass late occlusion: is limb salvage still possible?

Armanda Duarte, Tony R. Soares, Tiago Costa, Gonçalo Cabral, José Tiago, José Gimenez, Diogo Cunha e Sá

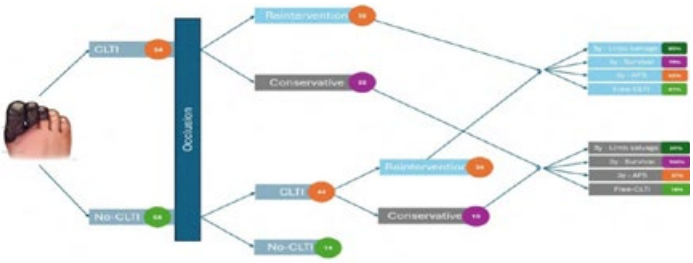
Hospital Beatriz Ângelo

INTRODUCTION: Late occlusion of distal and ultradistal bypass for chronic limb threatening ischemia (CLTI) is often seen as the final event leading to major amputation. Literature is particularly scarce in characterizing this population and in defining the best course of action in these cases. This study aims to analyze the outcomes of late occlusion events in infrapopliteal bypasses.

METHODS: A single-center retrospective analysis of patients who experienced late occlusion (observed after 30 days of follow-up) of an infrapopliteal bypass.
Primary end point was freedom from CLTI at the end of follow up. Secondary end points were limb-salvage, survival, and amputation-free survival (AFS) at 3 years.

RESULTS: From a total of 485 infrapopliteal bypasses, 23% (112/485) of patients experienced late occlusion. Seventy-two percent (81/112) were male, with a median age of 71 years (interquartile range – IQR 13). Median follow-up was 26 months (IQR 33).
At the moment of occlusion, 48% (54/112) of patients had CLTI and from the 52% (58/112) that were free from CLTI, 76% (44/58) relapsed. Of these 44 patients, 77% (34/44) were submitted to revascularization. Fifty-nine percent (32/54) of the patients that had CLTI at the time of occlusion were submitted to reintervention.
Overall, 67% (66/98) of patients with CLTI (including those that developed CLTI after occlusion) underwent reintervention, with 41% (27/66) achieving freedom from CLTI at the end of follow-up. Three-year limb-salvage, survival and AFS rates were 65% (95% confidence interval [CI]: 51 - 76), 79% (95% CI: 64 – 88) and 52% (95% CI: 39 - 64), respectively. From those who were not submitted to new revascularization (33%, 32/98), only 19% (6/32) were free from CLTI at the end of follow-up, with 3-year limb-salvage, survival and AFS rates of 39% (95% CI: 21 - 56), 100% and 37% (95% CI: 19 - 54), respectively. Freedom from CLTI and limb-salvage were significantly higher in patients submitted to reintervention (odds ratio 3.00, 95% CI 1.09 - 8.27, *p*=0.040 and hazard ratio 0.42, 95% CI 0.22 - 0.79, *p*= 0.006, respectively).

CONCLUSION: Late occlusion of infrapopliteal bypass grants an adverse prognosis, with lower rates of limb-salvage and AFS. Nevertheless, the management of late occlusions of distal and ultradistal bypasses in our institution seems to be adequate, considering the higher rates of freedom from CLTI and limb salvage achieved in the reintervention group.



CR 02 Common femoral artery endarterectomy with patch angioplasty-experience of a center

Miguel Queirós, Samuel Cardoso, João Marcelo Cabral, Henrique Almeida, Andreia Pinelo, Henrique Rocha, João Castro, Duarte Rego, Rui Machado

ULS de Santo Antonio

BACKGROUND: Common femoral artery endarterectomy (CFE) is still considered the gold standard for treatment symptomatic CFA disease. Nevertheless, recent studies highlight the potential of emerging endovascular techniques, particularly stenting, in this anatomical region. Special interest has been shown in the SUPERA (Abbot Vascular Inc, Santa Clara USA) stents due to their increased flexibility and less adverse interactions with the arterial wall, which makes them a good option for the CFA. However, uncertainty about long term outcomes, mainly primary patency, still persist.[1-3]

METHODS: This retrospective study examines all patients who underwent CFE with patch angioplasty at our institution from 2019 to 2022. Data analysis encompassed demographics, medical history, peripheral artery disease (PAD) severity, type of CFA lesion and procedural detail. Primary outcome was a composite of the following major complications: acute cardiopulmonary dysfunction, major patch and wound-related complications and mortality. Secondary outcomes considered were primary patency, technical success, and minor postoperative complications.

RESULTS: The study enrolled a cohort of 62 patients, predominantly comprising males (89%) with a median age of 70 years. Hypertension and history of smoking were prevalent among the participants. Most patients (84%) presented with chronic limb-threatening ischemia. Type II CFA lesions were encountered in more than half of the cases (54%). The immediate technical success rate was 98%. The primary outcome occurred in 8 patients (13%) with major wound infection being the most common. The assessment of minor postoperative complications, revealed that 16% of the patients experienced adverse events, specifically thigh hypoesthesia or inguinal lymphocele. The one-year patency rate stood at 98%, with no reported deaths within the first year of the follow-up period.

CONCLUSION: Our findings affirm the efficacy, durability, and safety of CFA endarterectomy with patch angioplasty. While perioperative complications may arise, our experience indicates they are manageable. Endovascular therapy may be considered as an alternative to open surgery in patients with an hostile groin in which difficult dissection and increased wound complications are expected.

CR 03 The 6-month experience aspiration thrombectomy and lighting indigo system in the treatment of acute venous thrombosis

Joana Cardoso, Gonçalo Alves, Helena Fidalgo, Carolina Tavares, Daniela Gonçalves, Gonçalo Rodrigues, Nelson Camacho, Inês Gueifão, Carlos Amaral, Maria Emília Ferreira

Centro Hospitalar e Universitário Lisboa Central - Hospital de Santa Marta

INTRODUCTION: Iliofemoral venous thrombosis is a pathology that can lead to leg edema, pain, re-thrombosis, or post-thrombotic syndrome. The catheter-directed thrombolysis may benefit patients with acute deep venous thrombosis, but indications and risks can be dubious. Aspiration thrombectomy system with a lighting indigo system is a system that distinguishes clot aspiration from blood aspiration. This provides rapid restoration of blood flow and can be used in both arterial and venous vessels. Penumbra can be a good treatment choice in acute deep venous thrombosis.

OBJECTIVE: A single center-retrospective review of patients with acute iliofemoral venous thrombosis treated with the Indigo continuous aspiration mechanical thrombectomy (penumbra) in the last 6 months. The primary outcome was clinical success as pain and swelling were evaluated. The second outcome was treatment complications.

RESULTS: In 6 months, we used penumbra in 4 cases of deep vein thrombosis of the left iliofemoral sector. All patients were female. The average age was 36 years (range, 16-65 years). Simultaneously, all patients underwent iliac venous stenting due to May-Thurner syndrome. In all patients, the access chosen for the procedure was the left popliteal vein. All the cases had imaging and clinical success. One patient required a blood transfusion the day after the procedure. The length of stay was on average 4 days (range, 2 to 7 days).

.

DISCUSSION: At the 1-month follow-up appointment, all patients remained without limb edema or pain complaints, with a median Villalta score of 2.

CONCLUSION: Using the aspiration mechanical thrombectomy system accompanied by the lighting indigo system proved to be safe, effective, and with good results in deep venous thrombosis.

CR 04 Video-assisted thoracoscopic sympathectomy with carbon dioxide pneumocompartment: a unicentric experience in the treatment of primary focal hyperhidrosis

Samuel Cardoso, Carlos Pereira, Rui Machado

Unidade Local de Saúde de Santo António

INTRODUCTION: Primary focal hyperhidrosis is an idiopathic condition characterized by excessive sweating in specific body regions such as the face, axillae, palms, or soles of the feet. Sympathectomy stands as the most effective treatment modality for patients with incapacitant hyperhidrosis. Traditionally, the video-assisted thoracoscopic sympathectomy (VATS) was realized double-lumen tube intubation and pulmonary exclusion. Nowadays, with emergency of minimally invasive approaches, VATS with carbon dioxide pneumocompartment and single-lumen tube intubation emerges as a valid alternative approach. It is associated with reduced anaesthesia duration and decreased risk of airway trauma. Therefore, the objective of this study is to present a unicentric experience operating this technique for the treatment of this clinical condition.

METHODS: This study is an unicentric trial that includes patients submitted to bilateral VATS with dioxide carbon pneumocompartment between January of 2021 and December of 2023 for the management of primary focal hyperhidrosis. All interventions were conducted within an outpatient surgery setting, without pulmonary exclusion. Patients underwent re-evaluated during follow-up appointments aimed at monitoring the benefits, complications and adverse effects of surgery.

RESULTS: This cohort comprises 80 patients, of whom 69% are female. The prevalence of facial, axillary, palmar, and/or plantar hyperhidrosis is 9%, 65%, 87.5%, and 58%, respectively. The average age of the subjects is 26.4 ± 9.2 years. The mean anaesthesia time is 13.8 ± 6.1 minutes, and the average duration of surgery is 35.9 ± 8.6 minutes. Short-term complications occur in 6 patients (7.5%). Ninety percent of patients attend the follow-up appointment, with an average follow-up time of 41.7 ± 79.3 days. Resolution of palmar focal hyperhidrosis is observed in all patients. Twenty-one patients (29.2%) exhibit compensatory hyperhidrosis, with abdominal and dorsal regions being the most frequent localizations.

CONCLUSION: This study confirms the efficacy of the sympathectomy in the treatment of primary focal hyperhidrosis, particularly in the palmar localization. VATS with carbon dioxide pneumocompartment approach offers reduce surgical time and rare post-operative complications.

CR 05 Comparative analysis of gender in ruptured abdominal aortic aneurysm – a single center experience

Leandro Nóbrega, Lara Dias, Tiago Pereira, Pedro Paz Dias, Marina Dias-Neto, Armando Mansilha

ULS São João

INTRODUCTION: Abdominal aortic aneurysms (AAA) have a higher prevalence in men. However, the risk of rupture is four times higher in women and evidence shows that it usually occurs at smaller diameters when compared with men. Despite this, the latest guidelines of the ESVS state evidence is lacking regarding diameter threshold for repair in women. Therefore, the aim of this study is to report gender differences in ruptured AAA (rAAA) regarding mortality and patient characteristics in a tertiary center.

METHODS: A retrospective review of all patients undergoing repair for rAAA in a tertiary institution from January 2012 to December 2023 was performed. Ruptures of isolated iliac aneurysms were excluded. Patient demographics, procedural and 30-day outcomes were collected. Outcomes were defined according to the Society for Vascular Surgery EVAR reporting guidelines. The primary outcome was 30-day mortality.

RESULTS: A total of 137 repairs for rAAA were performed in the analyzed period, 9.5% (n=13) of those were in women. Women were significantly older at the time of rupture (82.1±6.5 vs 72.6 vs 9.1; p<0.001). There were no differences in the proportion of endovascular repair between both groups (46.2% in women vs 36.1%; p=0.479). Smoking history was significantly lower in women (7.7% vs 53.9%; p=0.002). There were no other differences regarding comorbidities. The mean diameter at rupture was also not significantly different (85.58 mm in women vs 82.06 mm; p=0.155). Despite a trend for higher 30-day mortality in women (69.2% vs 45.2%), this difference was not statistically significant (p=0.098). Overall mortality after the first 30 days was also similar between both groups.

CONCLUSION: In this cohort, there was a trend for higher mortality in women which might be explained by the higher age at the time of rupture. The aneurysm diameter was not significantly different between both groups. However, our findings are limited due to the small number of women and for the fact that this was a unicentric study. Larger scale studies are needed to improve the available evidence on how to manage AAA in women.

CR 06 Vein versus prosthetic graft for above knee femoropopliteal bypass - 10 years retrospective study

Marta Machado, João Peixoto, Luís Fernandes, Roberto Boal, Francisco Basílio, Patrícia Carvalho, Beatriz Guimarães, P edro Brandão, Alexandra Canedo

ULSGE

INTRODUCTION: Conflicting evidence exists about which conduit is preferable in above-knee femoropopliteal bypass (AKFPB). The main aim was compare outcomes using saphenous vein (SV) versus prosthetic graft (PG) in AKFPB. Secondary aims were frequency of secondary below-knee vein bypasses (sBKVB) and predictors of AKFP thrombosis.

METHODS: All AKFPB between 2014-2023 were analyzed regarding primary patency, limb salvage, sBKVB and infection. Survival analysis was used to obtain Kaplan-Meier curves. Logistic regression was performed to identify predictors of thrombosis.

RESULTS: In last ten years were performed 78 AKFPB (61 with PG (45 Dacron, 15 PTFE); 13 with SV).
Mean age was 64.4 years-old, 87.2% were men. 63.5% had history of smoking, 60.8% arterial hypertension, 46.2% diabetes. 6 (7.7%) were IIb Leriche-Fountain stage, 10 (13.7%) III and 57 (78.1 %) IV. In 21 (26.9%) bypasses preoperative arteriography demonstrated one or less distal axis. There weren´t preoperative differences between two groups (Figure 1).
Regarding outcomes, 30 (38.5%) bypasses thrombosed. Primary patency rate at 1 year was 60% for SV vs. 90.8% for PG; at 5 years 60% for SF vs. 28.1% for PG (p = 0.867)
9 patients (11.5%) required a major amputation. The limb salvage rate at 1 year was 80% for SF vs. 92% for PG; at 5 years 80% for both (p = 0.479). (Figure 2)
There were 6 bypasses infections in graft group and none in veins group.
The frequency of a sBKVB was 16.7%.
Mortality was 21.7% with no differences between groups.
After logistic regression, age (OR=0.908) and bad runoff (OR=0.251) were predictors of AKFPB thrombosis(Figure 3).

CONCLUSION: There were no significant differences in primary patency and limb salvage rates between two groups, however PG had higher infection rates.
As the frequency of veins that were spared and subsequently used in a sBKVB was low, in uncontrolled foot infections the vein shouldn´t be spared.

Figure 1 - Demographics and preoperative characteristics of autologous vein compared to other graft types for above-knee femoro-popliteal bypass surgery

A)

	All (n=75)		Graft (n=61)		Vein (n=13)		p value
Age - mean±SD**	64.35+-9.65		64.77+-9.603		63.0+-11.113		0.559
Sex - n (%)							0.366
Female	10	(12.5)	7		3		
Male	68	(87.2)	54		10		
Comorbidities* - n (%)							
Hypertension	45	(60.5)	38		6		0.311
Diabetes	36	(46.2)	27		6		0.828
Smoker	47	(63.5)	36		7		0.809
Ischemic cardiopaty	11	(15.1)	7		3		0.362
Chronic kidney injury	8	(11.1)	7		1		0.999
Stroke	5	(6.8)	3		2		0.206
Congestive heart failure	4	(5.5)	4		0		
Auricular fibrilation	4	(5.5)	3		1		0.543
Conduit* - n (%)							
Ducron	45	(60.5)					
PTFE	15	(20.5)					
Vein	15	(16.7)					
Leriche-fountain Stage*** - n (%)							
III	10	(13.7)	8		1		0.999
IV	57	(78.1)	45		10		
Outflow* - mean±SD	1.85+-0.75		1.86+-0.74		1.73+-0.75		0.577
Outflow- n (%)							0.739
<=1			16		4		
>=2			45		9		
Endo* - n (%)							
Only CTA	20 (27.4)		15		3		
Only diagnostic angiography	43 (58.9)		34		7		
Previous Endovascular revascularization	5 (6.8)		5		0		
Failure endovascular attempt	5 (6.8)		3		2		

Footnote: SD - Standard deviation. 4 missing values for diabetes,hypertension,smoker; 5 missing values for Ischemic cardiopaty,Congestive heart failure,Auricular fibrilation,stroke ; 6 missing value for Chronic kidney disease; 4 missing values for conduit; 3 missing values for Leriche-fountain Grade and Endovascular; ** MIN-MAX 42- 88;*** 6 patients had IIb Leriche-fountain Stage

B) Outcomes of autologous vein compared to other graft types for above-knee femoro-popliteal bypass surgery

B)

	All (n=78)		Graft (n=61)		vein (n=13)		p value
Pos operative complications* - n (%)							
Infection (yes/no)	6	(7.7)	6		0		
Thrombosis (yes/no)**	30	(38.5)	24		4		0.755
New bypass (yes/no)	17	(21.8)	14		1		0.273
with graft	4	(5.1)	4		0		
with vein	13	(16.7)	11		1		
Amputation (yes/no)	9	(11.5)	7		2		0.624
Mortality* - n (%)	14	(21.7)	10		4		0.271

Footnote: SD - Standard deviation. 9 missing values for intervention's , 9 missing values for mortality ** 3 had 2 thrombosis

Figure 2 – Kaplan Meyer survival curves

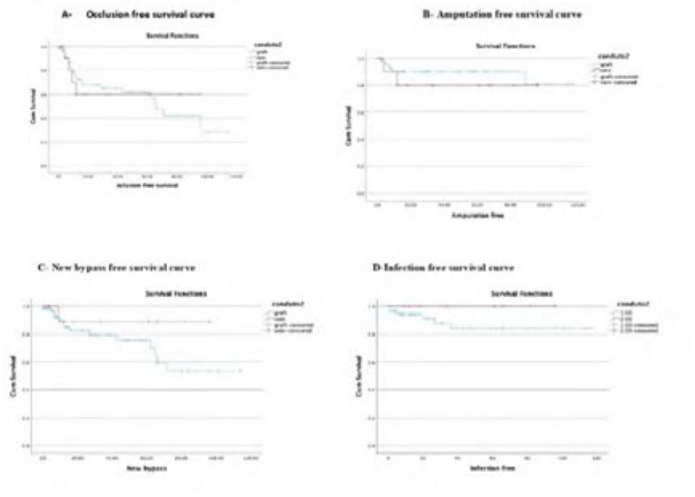


Figure 3 - Logistic regression regarding thrombosis

	Trombosis (n=30)	No thrombosis (n=48)	Crude OR (95%CI)	p value	Adjusted OR (95%CI)	p value
Age* - mean±SD	60.83+-8.73	66.63+-9.651	0.877 (0.809-0.951)	0.001	0.908 (0.850-0.971)	0.005
Smoker n (%)	23	24	2.565 (0.711-9.253)	0.150		
Outflow- median(IQR)	1.25 (1)	2 (1.5)	0.210 (0.084-0.526)	<0.001	0.215 (0.091-0.510)	<0.001
Infection- n (%)	8	1	0.112 (0.005-2.614)	0.173		

CR 07 Completion imaging after lower limb bypass surgery for peripheral artery disease: a systematic review

Diogo Domingues Monteiro, Marina Dias Neto, Armando Mansilha

ULS São João

OBJECTIVES: Lower extremity bypass (LEB) remains a suitable choice in symptomatic peripheral artery disease patients with a suitable conduit and acceptable surgical risk. The main reason for short-term failure are defects associated with technique or with the graft itself. Completion imaging (CIM)techniques are used to detect and correct errors occurred during the procedure. The aim of this systematic review is to assess available evidence on the role of CIM in detecting errors and improving patency of LEB.

METHODS: This systematic review was conducted according to PRISMA Guidelines. MEDLINE and Web of Science weresystematically searched from 1990 to December 2020. Studies were included if they presented results about the use of CIM (angiography, angioscopy or DUS) during LEB due to peripheral artery disease. The primary outcomes were:identification of bypass defects, need for reintervention based on intraoperative findings and graft patency. Secondary outcomes were: time, cost, sensibility and specificity. The data was extracted by two investigators following a predefined protocol. A qualitative analysis was then undertaken.

RESULTS: The search yielded 571 articles, from which, 17articles were included in this review: 3 RCTs, 9 prospective and 5 retrospective studies. From the included articles, 4studied the role of angiography in LEB (Group A), 2 compared the use of CIM (including angiography, DUS or both) with a control group (Group B), 2 compared angiography with DUS (Group C), 8 compared angiography with angioscopy (Group D) and 1 compared angiography, angioscopy and DUS.

CONCLUSIONS: Evidence suggests that all techniques are useful for the intraoperative detection and correction of technical errors, improving graft patency rates. Even while faced with a lack of quantitative analysis, the available results seem to favor angioscopy and its integration with the other techniques, namely angiography, for better results in terms of overall operative success and graft patency.

CR 08 IVUS in the evaluation of traumatic thoracic aortic injuries in pediatric age

Luis F. Antunes[1], Gabriel Anacleto[1], Joana Moreira[1], Oliana Tarquini[2], Tah Pu-Ling[2]

[1] Angiologia e Cirurgia Vascular HUC, ULS Coimbra, [2] Ortopedia Pediátrica HP, ULS Coimbra

INTRODUCTION: Thoracic aortic trauma in pediatric patients, being rare, raises concerns regarding the device to be used and its durability, oversizing and future growth of the vessel, meaning that the decision to proceed with invasive procedures must be carefully considered. Intravascular ultrasound (IVUS) device may help in this decision.
Authors report the surgical approach of 3 pediatric cases in which there was periaortic migration of plate fixation screws in the treatment of scoliosis.

MATERIAL AND METHODS: female patients, aged between 14 and 17 years, in which the Philips Volcano IVUS device was used to characterize aortic injury and Be Graft Aortic Bentley stent grafts implanted.

DISCUSSION: Case 1: 14 years old, with a history of scoliosis surgery 2 years ago, and in a control MRI, descending thoracic peri-aortic screw protrusion was observed. Angio-CT confirmed the migration. Surgery was performed in supine and later in lateral decubitus, placement of a 9F introducer after femoral surgical approach, passage of a 0.035 IVUS catheter with confirmation of the lesion, removal of the plate and screws and insertion of two stents Be Graft Aortic Bentley 18x48mm and 20x37mm in the descending thoracic aorta, with overdilation with a 20mm balloon.

Case 2: 14 years old, with a syndromic condition and a history of scoliosis surgery 7 years ago. X-ray showed very prominent screws that were confirmed by Angio-CT, although there did not appear to be any involvement of the aorta. Surgery was performed in the supine and prone position, placement of a 6F introducer via femoral puncture, passage of a 0.018 IVUS catheter without evidence of aortic compression. Screws were replaced without any more vascular procedure.

Case 3: 17 years old, with a history of scoliosis surgery 3 years ago, and after a fall, he underwent an X-ray and CT scan of the spine that showed screw migration with a periaortic location. Surgery was performed in the supine and prone position, with common femoral puncture, placement of a 9F introducer, passage of a 0.035 IVUS catheter with confirmation of protrusion in the aortic wall and replacement with a long 14F introducer. Replacement of screws, insertion of a 20x48mm Be Graft Aortic Bentley stent and closure with Perclose Proglide, Abbott were done.

CONCLUSION: IVUS is an important device in the evaluation and treatment of thoracic aorta in pediatric age, mainly when associated with trauma that causes artifacts in non-invasive exams.

CR 09 Single center experience in endovascular treatment of penetrating aortic ulcers: a retrospective analysis (2006-2022)

Tiago Costa-Pereira, Lara Dias, Leandro Nóbrega, Marina Dias-Neto, Armando Mansilha

ULS São João

AIMS: Penetrating aortic ulcers (PAU) are a rare pathology associated with acute aortic syndrome. Endovascular treatment has been used increasingly in this pathology. This retrospective study aims to analyse outcomes of patients who underwent endovascular intervention for PAU.

METHODS: A comprehensive review of medical records from patients diagnosed with PAU who underwent endovascular intervention between 2006 and 2022 was conducted. Data including age, gender, and comorbidities were collected. Follow-up data regarding post-surgical outcomes and mortality rates were documented. The location and size of PAUs were assessed through imaging studies. Information on the type of surgical procedures performed was also gathered. Primary outcomes of interest include post-operative and follow-up mortality. Secondary outcomes include post-operative complications. rates of PAU recurrence, length of hospital stay and reinterventions.

RESULTS: A total of 25 patients were identified, with 19 males (76%) and mean age 70.6±7.7 years. Most common comorbidities were hypertension (n=23, 92%) and dyslipidaemia (n=22, 88%). Sixteen patients presented with thoracic aorta PAU, 8 patients presented with infra-renal aortic PAU, and 1 patient with visceral aorta PAU. Patients with thoracic aorta PAU were more likely to present with symptoms or rupture (56%). There were no other differences between patients with thoracic aorta or infrarenal PAU regarding age, gender or comorbidities. Nineteen (76%) patients were treated using a tubular endoprosthesis. There were no reported intra-operative complications or procedures. There were no post-operative complications and no deaths at 30-days. Median diameter was 18.5 mm and mean depth was 12.2 mm. Median follow-up was 24 months. Three-year survival was 79.6% and did not differ between thoracic and infra-renal PAU.

CONCLUSIONS: This retrospective study provides valuable insights into the outcomes of endovascular intervention for PAU. Despite being a rare pathology, endovascular treatment has shown promising results in terms of post-operative mortality, with no reported deaths at 30 days and a three-year survival rate of 79.6%. Importantly, the study indicates that the location of PAU, whether thoracic or infra-renal, does not significantly impact post-operative mortality or long-term survival. However, further research with larger sample sizes and longer follow-up periods is warranted to validate these findings.

CR 10 Gender inequality in peripheral arterial disease regarding antiplatelet therapy efficacy

Celso Nunes, Juliana Varino, Leonor Baldaia, Eduardo Silva, Miguel Silva, Luis Orelhas, Maria Carmona

Centro Hospitalar e Universitário de Coimbra

INTRODUCTION: Peripheral artery disease (PAD) poses significant challenges in clinical management, with women experiencing worse outcomes following revascularization compared to men. Despite advancements in antiplatelet therapy, gender-specific differences in treatment efficacy remain poorly understood. This literature review aims to investigate the gender inequality in antiplatelet therapy efficacy in PAD patients.

METHODS: We performed a thorough electronic search of the literature using PubMed and Embase databases. We used the following combination of key words in our search strategy ((antithrombotic) OR (antiplatelet) AND (PAD) OR (peripheral arterial disease) AND (gender disparities) OR (gender diferencies) OR (Sex disparities). After duplicates removal, titles and abstracts screening and fully reading the remaining articles, we end up with three articles. Only articles in English published in the last 10 years were included. Three prospective observational studies were analyzed, focusing on platelet function assessment and clinical outcomes in PAD patients undergoing revascularization.

RESULTS: Studies revealed significant gender differences in platelet reactivity and clinical outcomes post-revascularization. Female patients exhibited higher platelet reactivity and a greater propensity for thrombotic events despite similar antiplatelet therapy regimens. Furthermore, women were more likely to experience bleeding complications post-endovascular intervention compared to men, suggesting a differential response to antithrombotic therapy.

DISCUSSION: The observed gender inequality in antiplatelet therapy efficacy underscores the need for personalized treatment strategies in PAD management. Despite lower prevalence of traditional cardiovascular risk factors, women with PAD demonstrate higher platelet reactivity and increased bleeding risk post-revascularization.

CONSLUSION: These findings highlight the importance of considering sex-specific factors and personalized approaches to antiplatelet therapy, informed by platelet function testing and risk assessment, may help mitigate these disparities and improve outcomes for female PAD patients. Further research is warranted to elucidate the underlying mechanisms driving gender differences in antiplatelet therapy response and to develop targeted interventions to address these disparities effectively.

COMUNICAÇÕES RAPID-PACE2

CR 11 Endovascular management of false aneurysm complicating a renal transplant: a case report

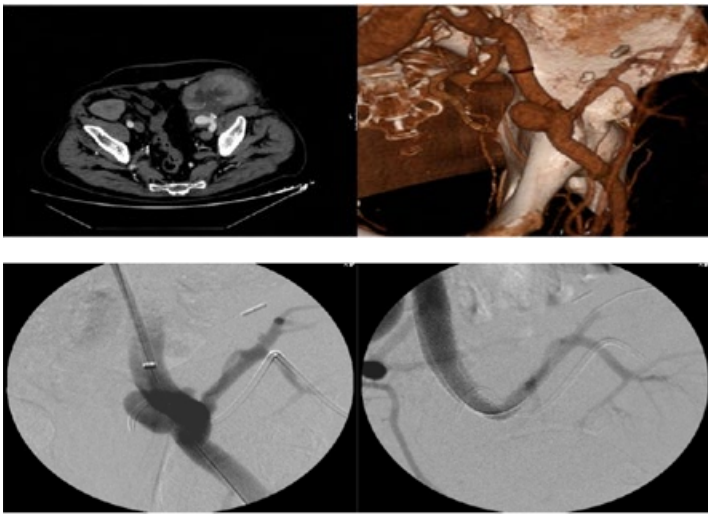
João Diogo Jorge de Castro, Carlos Pereira, Maria Sameiro Caetano Pereira, Rui Machado

Centro Hospitalar Universitário de Santo António

INTRODUCTION: Renal transplantation is a life-saving procedure for patients with end-stage renal disease. However, complications such as vascular abnormalities, though rare, can arise postoperatively, requiring prompt intervention. We present a case of a 66-year-old male with a complex false aneurysm complicating a renal transplant. We describe the clinical presentation, diagnostic workup, and successful endovascular management of this complication.

CASE REPORT: A 66-year-old male, with a past medical history of diabetes mellitus type 2 and hypertension underwent a renal biopsy during the investigation of chronic kidney disease, which subsequently led to complications requiring left nephrectomy.
Following this, he underwent renal transplantation in 2012 which failed.
In 2023, the patient was submitted to a second renal transplant but the postoperative period was complicated with bacteremia due to contamination of preservation liquid and so the patient needed broad-spectrum antibiotic therapy.
In 2024, the patient presented to the Emergency Department complaining of fatigue and lower back pain.
Laboratory investigation revealed leukopenia, thrombocytopenia, and an hemoglobin of 9.2g/dL, along with elevated creatinine (5.99 mg/dL) and potassium (6.20 mmol/L) levels. An Angio-CT showed a false aneurysm in the medial aspect of the renal graft with compressive effect.
The patient underwent endovascular exclusion of the false aneurysm using a balloon expandable covered stent graft from the external iliac artery to the renal transplant artery, along with femoro-femoral crossover bypass using a PTFE graft and proximal ligation of the common femoral artery.
Post-operatively, there was a significant improvement in renal function, with creatinine levels decreasing to 2.61 mg/dL. The patient experienced relief of symptoms and was discharged with close follow-up.

CONCLUSION: False aneurysm formation following renal transplant is a rare but potentially life-threatening complication. Endovascular intervention offers a minimally invasive approach with favorable outcomes, as demonstrated in this case.
Timely recognition and management are essential to prevent graft loss.



CR 12 Therapeutic approaches for phlegmasia - a case series

Maria Neves Carmona, Eduardo Silva, Celso Nunes, Leonor Baldaia, Miguel Castro, Luís Orelhas, Anabela Gonçalves

Centro Hospitalar Universitário de Coimbra

INTRODUCTION: *Phlegmasia* is associated with high rates of amputation and mortality. Previous case series have suggested different aggressive strategies to reduce these rates. We report our institutional experience in the treatment of this condition. We aimed to understand whether the more aggressive strategies yielded better results.

METHODS: We identified all patients who were admitted with phlegmasia from 2017 to 2024 in a tertiary hospital. Data was collected regarding patients' characteristics, therapeutic strategies, and outcomes. Retrospective analysis was performed.

RESULTS: Eighteen patients were admitted with phlegmasia cerulea dolens, only one with associated pulmonary embolism. Twelve were treated with anticoagulation only, four with venous thrombectomy, one with both venous and arterial thrombectomy and one with thrombi aspiration. Three inferior vena cava filters were inserted, only one was retrieved. Mean follow-up time was 33.9 months. Surgical patients had more complications (Clavien Dindo I-II in most cases). Only one patient developed pulmonary embolism. We have a 0% amputation rate. No deaths occurred during the first three months after diagnosis and only three patients from this series have died, all from causes unrelated to *phlegmasia*.

CONCLUSION: Recently, more aggressive strategies have been employed in our center. Nevertheless, results were similar between all approaches in terms of amputation and mortality rates.
Due to the small number of cases, these results should be interpreted with caution.

CR 13 Successful endovascular recanalization of autologous vascular accesses with three different tecniques – a case series

Leandro Nóbrega, Lara Dias, Tiago Moura, Joana Ferreira, Luís Coentrão, Armando Mansilha

ULS São João

INTRODUCTION: Autologous vascular accesses (VA) are the gold standard for patients undergoing hemodialysis and are associated with less morbidity than other vascular access alternatives, but treatment of a thrombosed autologous VA can be challenging. Our aim is to describe a case series of recanalization techniques that are seldom described in the vascular access setting.

METHODS: We hereby present four different cases of successful endovascular recanalization of autologous accesses with three different techniques: Rotarex (Straub Medical, Wangs, Switzerland), Aspirex (Straub Medical, Wangs, Switzerland) and endovascular catheter aspiration.

RESULTS: The first case is of a 68-year-old male patient that had a left brachiocephalic autologous access. As thrombectomy was only possible one month after VA thrombosis, Rotarex was employed. Two stenosis were revealed in the perianastomotic vein and in the cephalic arch and a high-pressure balloon percutaneous angioplasty (PTA) was performed. Afterwards, the VA was successfully cannulated. The second case is of a 69-year-old female patient that had a left radiocephalic

autologous access that was thrombosed. Given that the thrombosis was detected early, thrombectomy with Aspirex was employed and high-pressure PTA of a stenosis of the proximal third of the vein was also performed. The access was then successfully used in hemodialysis (HD) sessions. The third patient is a 68-year-old male that had a partially thrombosed VA (a brachiocephalic autologous access) and cephalic arch stenosis. As the thrombus burden was limited to a small portion of the cephalic vein, a less complex catheter aspiration with an 8Fr Vista Brite cathether (Cordis, Cardinal Health, USA) and a PTA were successfully performed. The VA continued to be used in HD sessions. Finally, the fourth case involves a 54-year-old patient with a left brachiocephalic VA previously submitted to PTA and stenting. After thrombosis, the patient underwent catheter aspiration with an 8Fr Vista Brite cathether and a high-pressure PTA of the stent and cephalic arch was performed. The VA continued to be utilized.

CONCLUSION: Our four cases show the potential of new techniques in the VA setting and, to the best of our knowledge, include the first description of Rotarex in a VA. They also are examples of tailored approaches to different clinical scenarios for the same complication. However, our midterm results are pending and more and bigger studies are needed.

CR 14 Embolization of renal pseudoaneurysms: experience of vascular surgery center

João Marcelo Cabral, Daniel Mendes, Samuel Cardoso, Miguel Queirós, Henrique Almeida, Andreia Pinelo, Henrique Rocha, João Diogo Castro, Rui Machado

Unidade Local de Saúde de Santo António

INTRODUCTION: Although rare, the incidence of Renal Pseudoaneurysms (RP) has been increasing. The main causes of RP are traumatic and iatrogenic. The RP are unstable lesions with a risk of rupture and potentially catastrophic consequences, necessitating timely detection and treatment. The first-line treatment for this condition is endovascular. This study aimed to evaluate the characteristics of patients undergoing this treatment and its efficacy.

METHODS: We retrospectively analyzed the patients treated in our emergency department with lower limb extremity trauma with concomitant arterial injury, between January 2020 and December 2022. Patients treated with primary amputation were excluded. Demographic, operative, and postoperative clinical data was collected to identify the factors associated with limb amputation and death.

RESULTS: IA retrospective analysis of the medical records of patients undergoing embolization of RP was conducted, collecting patient characteristics, the type of treatment received, and its efficacy. 26 patients with this condition between the years 2018 and 2022 were analyzed.

RESULTS: The mean age of the patients was 63 ± 15.5 years, being 52% male.
Iatrogenic causes accounted for 73% of the RP, with laparoscopic partial nephrectomy being the most prevalent, representing 38% of the causes of pseudoaneurysms.
The most common symptom among patients with RP was hematuria, present in 92% of patients. 42% also had anemia and 35% presented flank pain.
31% of the patients also had associated renal arteriovenous fistulas.
In the patients who had an identifiable cause of the RP, the average time between the iatrogenic cause and the diagnostic of the RP was of 30 days. The primary diagnostic method used was CT scan, the average time between CT scan and treatment was 37 hours.
42% of the patients needed blood transfusions.
All patients were initially treated using endovascular methods. Only 2 out of 26 patients required additional procedures. Endovascular embolization was the treatment of choice, with coils used in 69% of cases, microparticles in 31%, and microcoils in 25%. Of the 2 cases requiring additional treatment, one was on dual antiplatelet therapy, a new endovascular embolization with coils resolved the RP. The other one was anticoagulated, and a total nephrectomy was necessary.
The renal function of the patients before and after the renal embolization increased from an average of 1.81 to 2.29.

DISCUSSION/CONCLUSION: Most RP cases had iatrogenic origins, particularly after laparoscopic partial nephrectomies and renal biopsies. The most common clinical presentation was hematuria.
Prompt identification and treatment of RP is crucial to prevent serious complications. Urologists must also be aware of this condition.
Endovascular embolization emerges as a safe and effective strategy in the treatment of this pathology.

CR 15 Carotid free-floating thrombus: a case report from our centre and a decade of literature review

Miguel Castro e Silva, Maria Carmona, Luis Orelhas, Leonor Baldaia, Celso Nunes, Eduardo Silva, João Alegrio, Manuel Fonseca

ULS Coimbra

INTRODUCTION: Carotid free-floating thrombus (CFFT) is a rare but significant condition associated with an elevated risk of ischemic stroke and transient ischemic attacks (TIA), challenging clinicians with its diverse etiology and management strategies. The optimal approach to treatment remains under debate, given the condition's variable

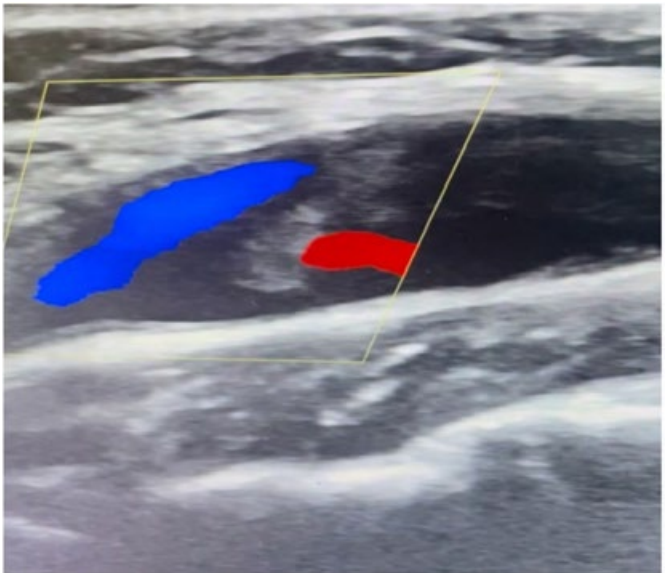
presentation and outcomes.

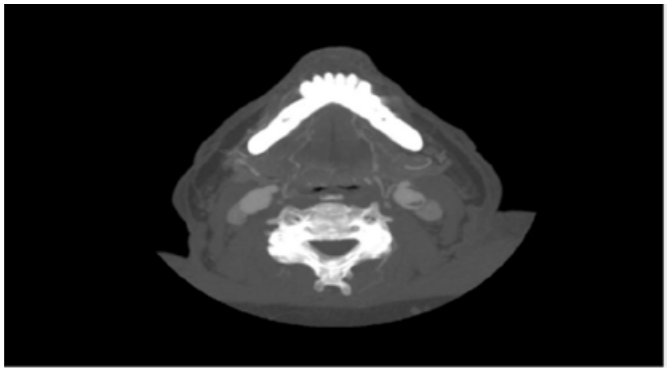
METHODS: A targeted literature review was conducted using PubMed, searching for "carotid free-floating thrombus" and limiting results to meta-analyses, systematic reviews, reviews, and cohort studies published within the last 10 years. This stringent selection criterion aimed to capture contemporary insights and evidence-based practices in the management of CFFT. Additionally, this article integrates a case report from our hospital, detailing the diagnosis and management of CFFT in a 68-year-old female patient, to illustrate the application of these findings in a clinical setting.

RESULTS: The literature review revealed a spectrum of management strategies for CFFT, from conservative antithrombotic therapy to aggressive surgical interventions. The studies underscored the lack of consensus on optimal treatment, reflecting the heterogeneity of CFFT in terms of origin, risk of embolization, and patient comorbidities. Our case report highlights successful thrombectomy in a patient with CFFT, emphasizing the procedure's potential effectiveness within a carefully selected patient population.

DISCUSSION: We synthesize findings from a literature review and a case report, highlighting the complexity of managing carotid free-floating thrombus (CFFT). The diverse treatment strategies, ranging from antithrombotic therapy to surgical intervention, underscore the need for personalized patient care. Our review indicates a lack of consensus on optimal management, reflecting the heterogeneity of CFFT. The successful outcome of a thrombectomy in our case report supports the potential benefits of surgical approaches for selected patients. Future research may further refine management guidelines

CONCLUSION: Managing CFFT requires a multifaceted strategy that considers the latest research, clinical guidelines, and individual patient factors. The divergence in management practices and outcomes accentuates the need for further high-quality research, particularly randomized controlled trials, to develop clearer and more effective treatment protocols for this challenging condition.





CR 16 Outcomes after autologous AV access construction in patients on dialysis

Lara R. Dias, Leandro Nóbrega, Tiago Moura, Tiago Costa-Pereira, Joana Ferreira, Luís Coentrão, Armando Mansilha

Unidade Local de Saúde São João

AIMS: Early referral for arteriovenous (AV) access creation in end-stage renal disease (ESRD) patients is recommended to optimize outcomes. However, some patients require access construction while already undergoing dialysis. This study investigates the impact of pre-existing dialysis on outcomes following primary autologous AV access creation

METHODS: All patients assessed in our multidisciplinary outpatient clinic within a tertiary care center and submitted to primary (first) autologous AV access construction between April 2021 and June 2023 were included. AV grafts and patients without post-operative evaluation were excluded. Demographic variables, pre-operative and post-operative ultrasound evaluation and maturation were evaluated. AV access maturation was defined as clinical and ultrasound maturation criteria, as evaluated by a nephrology consultant. A functional AV access was defined as a mature AV access that was successfully canulated with two needles over a period of at least 6 hemodialysis sessions, as defined by ESVS Vascular Access guidelines. Primary outcomes were the achievement of a mature and functional primary autologous AV access. Secondary outcomes were additional procedures performed and type of access constructed.

RESULTS: A total of 262 patients were included, with 91 already on dialysis at time of AV access construction. There were no differences regarding gender and comorbidities between patients on dialysis and not on dialysis. Patients on dialysis were younger (mean age 60.8±18.5 years) vs patients not on dialysis (69.6±12.5 years). Patients on dialysis were as likely to receive a radiocephalic fistula as patients not on dialysis (50.5% vs 51.6%) and achieved similar rates of unassisted maturation (57.8% vs 56.5%). Secondary

procedures were higher on dialysis patients, however not reaching significance (42.7% vs 35.1%). Survival during follow-up was also similar between groups.

CONCLUSION: While ideally patients should start dialysis with a functional AV access, maturation rates and secondary procedures do not seem to differ between patients before and after starting dialysis. Preoperative mapping and evaluation is paramount in these patients in order to improve outcomes.

CR 17 Role of routine neck drain placement in preventing post-carotid endarterectomy hematoma and wound infection

Leonor Baldaia, Eduardo Silva, Miguel Silva, Celso Nunes, Luís Orelhas, Maria Carmona, Vânia Oliveira, Manuel Fonseca

Centro Hospitalar e Universitário de Coimbra

OBJECTIVE: Postoperative neck hematoma following carotid endarterectomy (CEA) poses a significant risk, potentially requiring urgent intervention to prevent airway compromise. The optimal management strategy regarding the routine use of drains remains controversial. Recent published studies have indicated that drain placement does not provide complete protection against neck hematoma development or the need for reintervention for bleeding, and it may be linked to prolonged hospital stays. We aim to assess the safety and efficacy of routine neck drain placement in preventing post-CEA hematoma and risk of wound infection.

METHODS: A retrospective review of a tertiary center's institutional database was conducted to identify all patients who underwent CEA procedures with routine use of neck drain from January 2023 to February 2024. Primary outcomes included the incidence of postoperative neck hematoma and wound infection.

RESULTS: We included a total of 63 patients in our analysis, 58.7% with symptomatic and 41.3% asymptomatic carotid stenosis. The mean age was 69.9 years [50-86], and 77.8% were male. 73.0% had hypertension, 42.9% diabetes, 14.3% coronary disease, and 7.9% chronic renal disease. The majority (93.7%) received perioperative antiplatelet therapy, while 6.3% were under anticoagulation therapy. Selective prosthetic patch closure was performed in 7.9%. The mean postoperative drainage volume was 33cc [0-550], with 47.6% of patients experiencing only vestigial drainage. The neck drain was removed on the first, second, and third postoperative days in 73.0%, 25.4%, and 1.6% of patients, respectively. Despite routine drain placement, the incidence of neck hematoma was 17.5% (11 patients), with 27.3% of these requiring reinterventions (3 patients) and the remaining 72.7% managed conservatively. Wound infection occurred in 4.8% of cases (3 patients), all of whom were treated with antibiotics without requiring reintervention; of these cases, one was associated with neck hematoma.

CONCLUSIONS: TNeck hematoma remains a considerable postoperative complication, with risk for reintervention. The prevalence of wound infection, though relatively low, emphasizes the importance of careful perioperative care. These findings question the effectiveness of routine drain placement in preventing hematoma and wound complications after CEA. Given the predominance of low drainage content in most patients, a selective approach to drain placement may be preferable.

CR 18 Retrospective analysis of peripheral artery aneurysms: a tertiary center study

João Diogo Jorge de Castro, Henrique Rocha, Andreia Pinelo, Henrique Almeida, Miguel Queirós, João Cabral, Samuel Cardoso, Maria Sameiro Caetano Pereira, Rui Machado

Centro Hospitalar Universitário de Santo António

INTRODUCTION: Peripheral aneurysms, particularly in the femoral and popliteal arteries, are a significant health concern due to associated morbidity and mortality. Understanding demographics, risk factors, treatment modalities, and outcomes is crucial for patient care optimization.

METHODS: Data from peripheral aneurysm surgeries at a tertiary center between 2021 and 2024 were collected. Variables included gender, age, cardiovascular risk factors, aneurysm type, intraluminal thrombus presence, maximum diameter at diagnosis, symptoms, synchronous aneurysms, surgical procedures, and postoperative management.

RESULTS: Males (97.8%) were predominantly affected, with a mean age of 69.9 years. Common risk factors included type 2 diabetes (34.8%), dyslipidemia (43.5%), and hypertension (43.5%). Popliteal artery aneurysms (PAA) comprised 84.8% of cases, followed by common femoral artery aneurysms (CFAA) (15.2%). Symptomatic presentation was more common in PAA (85.4%) than CFAA (80%). Mean diameter was 22.58 mm for PAA and 23.25 mm for CFAA. From symptomatic, some presented with thrombosis and acute limb ischemia (n=5) or symptoms of distal embolization (n=1). Synchronous aneurysms occurred in 27 cases, primarily contralateral PAA(90%), with notable occurrences of AAA (30%), femoral (15%), and iliac aneurysms (15%).
Asymptomatic cases often exhibited mural thrombus (82.9%) and diameters ≥20mm (82.4%). Treatment modalities varied, with 82.5% of PAA undergoing conventional surgery, predominantly via a medial approach (69.70%). In the posterior approach (30.3%), an equal distribution between PTFE and great saphenous vein grafts was observed.
Endovascular treatment represented 17.5% of PAA treatments, showing favorable outcomes.

The majority of CFAA cases were treated with graft interposition. One case required major amputation, while four experienced bypass thrombosis.

CONCLUSION: IThis study highlights the predominance of PAA and their association with cardiovascular risk factors. Treatment modalities varied, with conventional surgery being the mainstay for PAA, while endovascular techniques showed promising outcomes. These findings emphasize tailored approaches' importance in optimizing outcomes and minimizing complications in peripheral aneurysms.

CR 19 All the (wrong) way through: when central venous catheters end up in supra-aortic arteries - a retrospective analysis

Patrícia Carvalho[1], Daniel Brandão[1], João Peixoto[1], Luís Fernandes[1], Roberto Cunha[2], Marta Machado[1], Francisco Basílio[1], Beatriz Guimarães[1], Alexandra Canedo[1]

[1] Unidade Local de Saúde de Gaia e Espinho, [2] Hospital do Divino Espírito Santo de Ponta Delgada

INTRODUCTION: Central Venous Catheter (CVC) placement is one of the most common medical procedures. However it is not devoid of complications, and accidental supra-aortic arterial cannulation is probably underreported. This study points to the relevance of its early recognition and prompt management, either by open or percutaneous procedures.

METHODS: We retrospectively reviewed all consecutive patients undergoing intervention in our department due to inadvertent supra-aortic catheterization during CVC placement from January 2014 to December 2023.alysis was conducted using multivariate logistic regression.

RESULTS: A total of seven patients were included. The majority were male (71.4%) and the mean age was 71 years old. Two patients were previously under antiplatelet therapy and two other were under anticoagulation. One patient had thrombocytopenia and two had an increased APTT prior to the procedure. Administration of fluids and vasopressors was the most frequent indication for CVC placement (57.1%). The remaining included chemotherapy (28.6%) and hemodialysis (14.3%). CVC diameter ranged from 7 to 9.5 Fr. The target was the right internal jugular vein in four cases (57.1%) and the right subclavian vein in the remaining. The most frequently injured artery was the right subclavian (57.1%), followed by the right common carotid (28.6%) and the brachiocephalic arteries (14.3%). The vast majority (85.7%) of arterial injuries was immediately suspected through blood gas analysis, pulsatile flow or arterial waveform. Once suspected, all patients underwent CT angiography to confirm arterial misplacement and decide the best strategy. In four cases intervention was performed in less than 6h. In two cases it took 24h to intervene. There was only one case whose intervention was delayed more than 24h. Open surgery with direct arterial suture and hematoma drainage was performed in one patient (14.3%). A percutaneous approach was used in the remaining, which included the use of percutaneous closure devices ± balloon-assisted CVC removal (71.4%) and a covered stent graft (14.3%). All procedures were conducted successfully with no further complications.

CONCLUSION: The management of inadvertent supra-aortic catheterization during CVC placement should be individualized. Percutaneous approaches have become an attractive option due to its minimal invasiveness, the possibility to access arteries which are difficult to expose surgically and the avoidance of general anesthesia in patients with acute illness and significant comorbidities.

CR 20 Pessoa com amputação do membro inferior por doença arterial periférica: dependência no autocuidado

Diana Fonseca Rodrigues[1], Paulo Machado[2], Teresa Martins[2], Luís Carvalho[2], Cristina Pinto[3]

[1] Centro de Investigação em tecnologias e serviços de saúde (CINTESIS) | Instituto de Ciências Biomédicas Abel Salazar (ICBAS), Universidade do Porto | Escola Superior de Enfermagem do Porto, [2] Centro de Investigação em tecnologias e serviços de saúde (CINTESIS) | Escola Superior de Enfermagem do Porto, [3] Centro de Investigação em tecnologias e serviços de saúde (CINTESIS)

INTRODUÇÃO: A amputação de membro inferior é uma causa comum de incapacidade com impacto negativo na saúde física e mental. As causas mais comuns de amputação são as doenças vasculares. A perda de autonomia física, psicológica e intelectual causadas pela doença são agravadas pela amputação, que torna praticamente impossível a realização de atividades de vida diária de forma independente. A amputação de membro inferior torna as pessoas dependentes de outras para a realização de um conjunto de atividades de vida diária relacionadas com o autocuidado.

OBJETIVOS: Identificar as características sociodemográficas e clínicas da pessoa com amputação de membro inferior por doença arterial periférica (DAP) a residir no domicílio e avaliar o grau de dependência em atividades de autocuidado de pessoas com amputação do membro inferior por DAP a residir no domicílio.

MÉTODOS: Estudo exploratório, transversal, descritivo, de natureza quantitativa, com amostragem não probabilística por conveniência, com um total de 40 participantes recrutados entre maio de 2022 e junho de 2023. Como instrumentos de colheita de dados foi utilizado um questionário sociodemográfico e o formulário de avaliação de dependência no autocuidado, versão reduzida.

RESULTADOS: Os participantes eram maioritariamente homens, 75% com mais de 65 anos, 77,5% com amputação

transfemoral e 72,5% usam cadeira de rodas. Relativamente ao grau de dependência nos domínios do autocuidado, os que apresentam maior nível de dependência são: "andar", "tomar banho", "vestir-se e despir-se", "uso do sanitário" e "transferir-se".

CONCLUSÃO: Para fazer a avaliação da dependência da pessoa com amputação do membro inferior por DAP nas atividades de autocuidado, é essencial utilizar um instrumento de avaliação confiável para identificar as suas necessidades. Isto permite o desenvolvimento de intervenções e programas educativos para melhorar as habilidades/capacidades no âmbito da realização de atividades de vida diária. É importante a inclusão dos cuidadores nestas intervenções e programas que os ajudem e apoiem na recuperação do nível de independência nas atividades de vida diária dos seus familiares dependentes.

DESCRITORES: Atividades da vida diária; Amputação; Autocuidado; Membro inferior.

SESSÃO MELHOR POSTER

P01 TEVAR for primary aortic mural thrombus (PAMT): when and how?

João Marcelo Cabral, Daniel Mendes, Samuel Cardoso, Miguel Queirós, Henrique Almeida, Andreia Pinelo, João Diogo Castro, Henrique Rocha, Paulo Almeida, Ivone Silva, Rui Machado

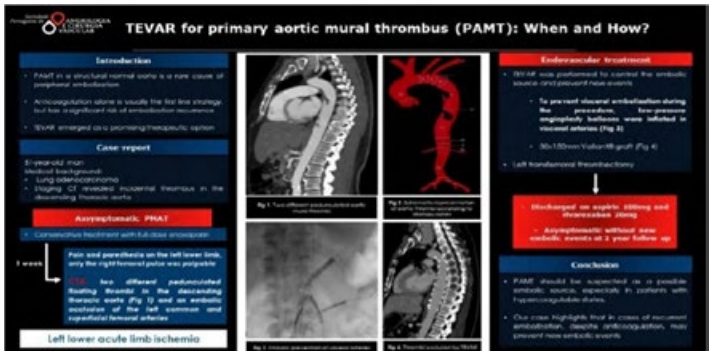
Unidade Local de Saúde de Santo António

INTRODUCTION: PAMT is a rare cause of peripheral embolization that has been associated with hypercoagulable states. Anticoagulation alone is usually the first-line strategy but is associated with a significant risk of embolization. TEVAR for thrombus exclusion emerged as a successful technique with lower perioperative morbimortality than open surgery.

METHOD: A retrospective analysis of electronic medical records was conducted.

CASE REPORT: A 51-year-old male patient followed for right lung carcinoma performed computed tomography (CT) for the staging of lung disease, where an incidental thrombus in the descending thoracic aorta was observed. Considering the patient was asymptomatic, conservative treatment with full-dose enoxaparin was initiated.
However, one week later, the patient developed symptoms of pain and paresthesia on the left lower limb. On physical examination, only the right femoral pulse was palpable. An arterial Doppler ultrasound revealed embolic occlusion of left femoral arteries. These findings were confirmed by CT angiography (CTA). The CTA also showed two different pedunculated floating thrombi in the descending thoracic aorta. Thus, a diagnosis of bilateral acute limb ischemia due to embolization originating from a PAMT was assumed. Continuous perfusion of unfractionated heparin was initiated, and urgent surgery was proposed.
TEVAR was performed to control the embolic source and prevent new events. To prevent visceral embolization during the procedure, low-pressure angioplasty balloons were inflated in the visceral arteries. The thrombi were excluded using a Valiant® endoprosthesis measuring 30x150mm. Subsequently, a left transfemoral thrombectomy was performed, achieving normal blood flow to the foot.
The postoperative period was uneventful. The patient was discharged on aspirin and rivaroxaban and continues follow-up in outpatient care, remaining asymptomatic. Follow-up CTA showed the correct positioning of the thoracic aortic graft without evidence of thrombus recurrence.

CONCLUSION: Although rare, PAMT should be suspected as a possible embolic source, especially in patients with hypercoagulable states such as neoplasms. Our case highlights that in cases of embolization recurrence despite anticoagulation, the use of TEVAR to exclude aortic thrombi may prevent additional embolization. In these circumstances, the risks associated with the procedure are possibly outweighed by the potential catastrophic complications related to embolization.



P02 Fenestrated TEVAR combined with distal fevar for treatment of an extensive post-dissection thoracoabdominal aneurysm

Carolina Passos, Ruy Fernandes, Ryan Melo, Tiago Magalhães, Luís Mendes Pedro

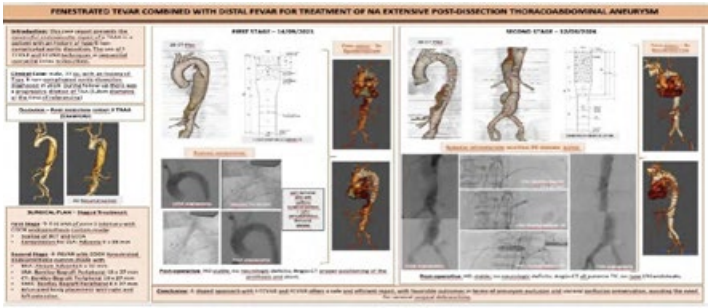
ULS Santa Maria

INTRODUCTION: Proximal sealing in chronic post- type B dissection aneurysms usually requires a landing zone in zone 1 or 2. Classically, this has been dealt with surgical cervical debranching and TEVAR. We present a case where we used a proximal fenestrated TEVAR for adequate proximal sealing.

CLINICAL REPORT: A 77-year-old male patient with a history of previous uncomplicated type B aortic dissection presented with a post-dissection extent II thoraco-abdominal aortic aneurysm. Maximum aortic diameter was 5.8cm and all

target vessels arose from the true lumen. In order to have an adequate proximal seal we aimed at using Ishimaru zone 1 as total seal and zone 2 as effective seal. For spinal cord ischemia prevention, a staged repair was planned. In the first stage a fenestrated TEVAR custom-made device was used, using a scallop for the innominate artery and left common carotid and a preloaded fenestration for the left subclavian artery, in addition to a distal tapered thoracic component reaching 5cm above the celiac trunk. In the second stage a custom-made 4 fenestrated device was used in addition to a proximal bridging thoracic component and a distal custom-made bifurcated graft.
Both procedures were successful, with postoperative imaging confirming adequate exclusion of the aneurysm and preservation of visceral flow.

CONCLUSION: Custom-made device platforms allow a tailored approach for each patient. The f-TEVAR technique allows proximal sealing in the mid-aortic arch avoiding a surgical cervical debranching.



P03 Graft-to-graft endovascular aortic arch repair in a marfan patient – case report

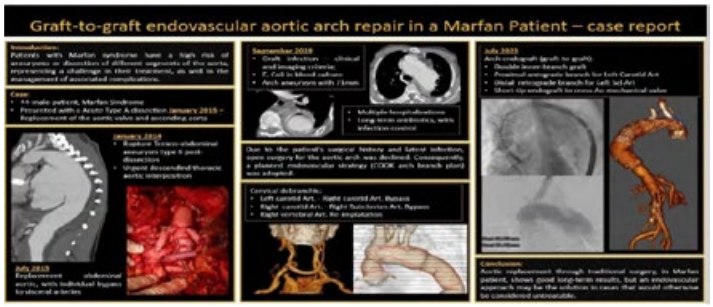
Tiago Magalhães, Ruy Fernandes e Fernandes, Ryan Gouveia e Melo, Luís Mendes Pedro

Serviço de Cirurgia Vascular, Unidade Local De Saúde Santa Maria

INTRODUCTION: Patients with Marfan syndrome have a high risk of aneurysms or dissection of different segments of the aorta, representing a challenge in their treatment, as well in the management of associated complications.

CASE REPORT: We present a 44-year-old patient with Marfan syndrome who had an acute type A dissection in January 2011, undergoing replacement of the aortic valve (mechanical valve) and ascending aorta.
During the follow-up, the patient developed an extent II thoracoabdominal aneurysm in the distal residual dissection area which ruptured in the descending thoracic aorta in January 2014. Faced with urgent open aortic repair, an interposition graft of the descending thoracic aorta was performed.
In July 2015, he was submitted to replacement of the remainder of the thoraco-abdominal aorta with individual bypasses to the visceral and renal arteries.
In September 2019, the diagnosis of prosthetic infection led to multiple hospitalizations, requiring prolonged antibiotic therapy. Although there was effectiveness in controlling the inflammatory/infectious process, the aortic arch presented as the last segment requiring intervention due to significant progressive aneurysmal dilation.
Given a patient with multiple interventions and latent infection he was refused for open repair of the aortic arch and thus proposed for endovascular repair, as last option. We aimed to use the previous surgical grafts as proximal and distal landing zones (graft-to-graft repair). To have sufficient proximal sealing length we performed a left carotid to right carotid and right subclavian bypass and vertebral artery re-implantation (direct arch origin) and used the left common carotid and left subclavian artery as target vessels for an arch endograft (COOK® a-branch, CMD platform). The graft was designed with two inner-branches (one antegrade for the left carotid and one retrograde for the left subclavian). The graft was placed with the nose tip advancing through the mechanical aortic valve achieving technical and clinical success.

CONCLUSION: Patients with Marfan syndrome are frequently associated with extensive post-dissection aortic aneurysms. Aortic replacement through traditional surgery shows good long-term results, but an endovascular approach may be the solution in cases that would otherwise be considered untreatable.



P04 Endovascular iliocaval reconstruction: stretching kidney transplantation boundaries

Henrique Almeida, Paulo Almeida, Sérgio Teixeira, Andreia Pinelo, Henrique Rocha, João Castro, Miguel Queirós, João Marcelo, Rui Machado

Unidade Saúde Local de Santo António

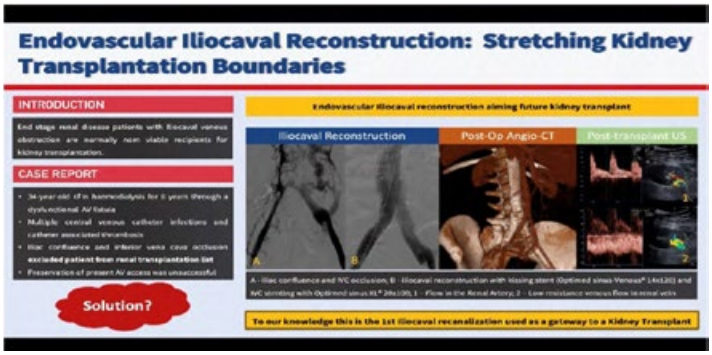
AIMS: Long-term haemodialysis patients often have exhaustion of their venous patrimony. Long term central venous catheter use is associated with central venous stenosis and occlusions. End stage renal disease patients with Iliocaval venous obstruction are normally nom viable recipients for kidney transplantation. We aim to describe

a challenging case were an ESRD patient with venous patrimony exhaustion was submitted to endovascular iliocaval reconstruction enabling subsequent kidney transplantation.

METHODS: Clinical data review through consultation of clinical files. Informed consent for data and image use was obtained from the patient.

CASE REPORT: We report a case of a 34-year-old male patient in haemodialysis as renal replacement therapy for six years due to IgA nephropathy. Past medical history included multiple central venous catheter infections and catheter associated thrombosis. Iliac confluence and inferior vena cava occlusion previously excluded the patient from the renal transplantation list. Initial attempt of right brachiocephalic trunk recanalization for preservation of present arteriovenous access was unsuccessful. Exhaustion of venous patrimony was already previously documented. After multidisciplinary discussion the patients was proposed to endovascular Iliocaval reconstruction aiming a future kidney transplant. Iliocaval recanalization was achieved through bilateral femoral access. Inferior vena cava and iliac angioplasty were performed. A dedicated venous stent was deployed in the inferior vena cava, followed by a double-barrel reconstruction of the iliac confluence. Successful iliocaval recanalization was accomplished. Five months after kidney transplantation was performed with a deceased-donor graft in the right iliac fossa. Post operative period was uneventful. After 6 months the patient remained free from kidney replacement therapies with a serum creatinine of 1.3mg/dL.

CONCLUSION: At the best of our knowledge this is the first clinical description of successful kidney transplant in a patient with a previous iliocaval reconstruction. The present case illustrates the importance of a multidisciplinary team managing vascular access and renal transplantation.



P05 In situ fenestration technique for preserving the left subclavian artery in emergent TEVAR

João Peixoto[1], Marco Usai[2], Martin J. Austermann[2]

[1] ULSGE, [2] St. Franziskus-Hospital Münster · Department of Vascular Surgery

Open aortic repair is the gold standard in the treatment of diseases involving the aortic arch, but high-risk patients are often not suitable candidates for surgical repair. Thoracic endovascular aortic repair (TEVAR) is less invasive; however, endovascular repair including the aortic arch remains a challenge.

86-YO man is admitted to the ER due to chest pain and hoarseness. There was a previous medical history of TEVAR (proximally implanted in zone 3) for penetrating thoracic aortic ulcer (PAU) with suspected aortobronchial fistula; done 8 months prior. Angio-CT revealed aneurysmal dilation of the lesser curvature of the aortic arch with a maximum diameter of 65mm. The patient was submitted to TEVAR with proximal sealing in zone 2 of the arch (Ankura™ stent-graft) and revascularization of the left subclavian artery (LSA) was achieved using a in situ -needle puncture- fenestration (ISF) with the deployment of a balloon-expandable covered stent. No complications were registered. Patient initiated broad spectrum antibiotics and underwent PET/CT revealing several metabolically active lymph nodes suggesting underlying neoplasm. The patient was transferred to area hospital on the eleventh day post-op to further study underlying disease.

LSA revascularization is linked with reduced risk of cerebrovascular events, spinal cord ischemia, and upper limb ischemia at the cost of complications associated with carotid-subclavian bypass. ISF seems an effective, safe, and feasible method for the totally endovascular aortic arch repair avoiding the risks associated with bypass surgery. This technique allows for rapid, “off-the-shelf” repair of arch lesions with minimal physiologic disturbances and lower perioperative complications. Studies suggest that nearly two thirds of patients being submitted to zone 2 TEVAR would have adequate anatomy for ISF.

Due to its relative simplicity, its usage is also suitable in urgent and emergent settings. ISF is a simple, and quick technique to be added to our arsenal of endovascular procedures on the aortic arch. It may avoid the carotid-subclavian bypass as well as intentional embolization of the LSA in urgent/emergent patients. Prospective studies with long-term clinical follow-up are still lacking to fully assess the durability of these fenestrations.

P06 Inferior vena cava tumors - unveiling the diagnosis by an endovascular approach

João Marcelo Cabral, Daniel Mendes, Samuel Cardoso, Miguel Queirós, Henrique Almeida, João Diogo Castro, Henrique Rocha, Carlos Pereira, Rui Machado

Unidade Local de Saúde de Santo António

INTRODUCTION: Primary tumors of the inferior vena cava (IVC) are exceptionally rare. Symptoms emerge late in the disease progression and are frequently nonspecific, complicating diagnosis and treatment. Surgical intervention remains the sole definitive option.

CASE REPORT: A 49-year-old male patient presents to the emergency department reporting right leg swelling. Patient had an history of varicose vein surgery one month prior. Duplex ultrasound revealed thrombosis of the right iliac and femoral vein. These findings were confirmed by CT angiography, which also revealed pulmonary thromboembolism. Anticoagulation therapy with rivaroxaban was initiated upon discharge.
Despite treatment, persistent right leg swelling and discomfort prompted further investigation, raising suspicion of post-thrombotic syndrome. A CT scan revealed an uncommon thrombus in the infrarenal IVC with 12 cm of extension. Consequently, a phlebography, magnetic resonance, and PET scan were performed to better understand the etiology, which raised suspicions about the etiology of the IVC thrombus. Subsequently, an endovascular biopsy confirmed the diagnosis of an IVC leiomyoma; it was performed using a Cordis™ Biopsy Forceps.
The patient was proposed and accepted surgery. In the operating room, a xiphopubic incision was made, and a Cattell-Braasch maneuver was used to visualize the IVC. A meticulous dissection confirmed the presence of the neoplastic lesion, which was subsequently resected. Due to collateralization and inadequate inflow, IVC reconstruction was deemed unnecessary.
The postoperative course was uneventful, with the patient discharged after a week's stay, continuing rivaroxaban therapy and wearing compression socks. At the one-month follow-up, the patient remained symptom-free.

CONCLUSION: While rare, it's crucial for Vascular Surgeons to acknowledge the existence of IVC leiomyomas, which often manifest with nonspecific symptoms. In this instance, the patient's sole symptom was recurrent thrombosis of the femoral, iliac, and inferior vena cava, which proved refractory to anticoagulation therapy.
Percutaneous endovascular biopsy, using an endomyocardial biopsy device, emerged as an effective and safe method for diagnosing tumoral thrombus within the IVC.
Although it was not possible to perform an anastomosis after IVC resection, extensive collateralization proved adequate for venous drainage, likely attributable to the prolonged duration of the pathology.

P07 From dilation to repair: mega aorta repair from the aortic valve to the infrarenal aorta

Leandro Nóbrega, Lara Dias, Filipa Jácome, Diogo Monteiro, Tiago Moura, Tiago Pereira, Margaret Soares, José Vilas-Boas, Rita Piedade, Pedro Henrique-Almeida, Rui Cerqueira, José Teixeira, Armando Mansilha

ULS São João

INTRODUCTION: Mega aortic syndrome (MAS) is a rare clinical condition that requires complex repair and can have ominous prognosis if left untreated. The aim of this work is to report a successful hybrid treatment of a type III MAS.

METHODS: The authors hereby report a case of a hybrid repair for a type III MAS.

RESULTS: A 69 years-old female patient with previous history of smoking and hypertension was referred to the outpatient clinic with a type III MAS associated with moderate aortic valve insufficiency (class I-II NYHA). The maximum aortic diameter was 74 mm at the descending thoracic aorta. After multidisciplinary discussion, a three-stage hybrid repair was deemed the best solution. First, the patient underwent aortic valve repair associated with ascending aorta and arch repair with Lupiae graft (Vascutek Terumo Inc., Scotland) and supra-aortic debranching. The post-operative period had several complications including spontaneous subdural hematoma, acute kidney injury and respiratory failure. The patient recovered well and was discharged 18 days after surgery without sequelae. In the second stage, a TEVAR with two stent grafts was performed to create a proximal landing zone for a custom made endograft. Additionally, a left ilio-femoral bypass with a 10 mm graft was performed to accommodate the large sheaths for the custom made endograft. After surgery there was a need for blood transfusion due to anemia and the patient had fever in a post-implantation setting. The remaining hospital stay was uneventful, and the patient was discharged on the seventh post-operative day. The final stage was then performed with a custom made endograft with two branches for celiac trunk and superior mesenteric

artery and two fenestrations for both renals. The patient was discharged one week after surgery and is awaiting the one-month CT scan.

CONCLUSION: The repair of type III MAS is naturally complex due to extension of the disease. The presented case is an example of a successful hybrid repair of a challenging clinical scenario in which multidisciplinary collaboration is paramount.

P08 Surgical management of renal cell carcinoma extending into the inferior vena cava

João Peixoto[1], Pedro Brandão[1], Ivo Lopes[2], Alexandra Canedo[1]

[1] ULSGE, [2] Hospital da Luz Arrábida

Renal cell carcinoma (RCC) accounts for approximately 3% of adult malignancies and 90-95 % of neoplasms of the kidney. A notable aspect of RCC is the tumor thrombus formation, that migrates into the venous system including renal vein (RV) and inferior vena cava (IVC). The surgical management of RCC with thrombi in the IVC has become the gold standard treatment.
A 59-year-old male is referred to urology consult by its general practitioner due to a lesion on the right kidney found on abdominal ultrasound. There was no known past medical history other than smoking habits. Physical examination showed a slight symmetrical edema of the lower limbs. Angio-CT and MRI was ordered, revealing a presumed renal cell carcinoma of the apical pole of the right kidney invading into the right renal vein and inferior vena cava (stage T3b in TMN classification) and partial left renal vein thrombosis was noted. The patient underwent surgical excision of the lesion. A nephrectomy by lumbotomy was performed. After ligation of the renal vessels and nephrectomy, the surgical approach to the IVC was conducted via retroperitoneal access. Distal control of the IVC was achieved and afterwards, a balloon catheter was placed proximally to the lesion, in the retrohepatic IVC (placement was confirmed using transesophageal ultrasound (TEE)). Thrombectomy with endoluminal occlusion of the IVC was performed without any dissection of the retrohepatic and supradiaphragmatic IVC. Thrombectomy of the right renal vein with Fogarty catheter was also performed. Venotomy was closed using continuous suturing.
Patient had no post-op complications being discharged home on the sixth day post-op.
Despite recent research, surgery remains the only potential curative treatment for advanced RCC. Aggressive surgical management including nephrectomy with thrombectomy is currently the standard therapeutic approach for RCC patients with tumor thrombus extending to the RV or the IVC. Endoluminal occlusion of the IVC guided by TEE may avoid a retrohepatic or subdiaphragmatic exploration of the IVC.
Surgical resection is the key for increasing the survival of these patients. The use of endovenous occlusion, guided by TEE, allows a simple and straightforward control of the IVC avoiding further dissection into the retrohepatic space and thus reducing the risk of complications.

P09 Spontaneous carotid rupture - from life-threatening to safely home

Andreia Pinelo, Daniel Mendes, Samuel Cardoso, João Castro, Henrique Rocha, Henrique Almeida, Miguel Queirós, João Marcelo, Rui Machado

Centro Hospitalar Universitário de Santo António

INTRODUCTION: Carotid pseudoaneurysms are extremely rare, and their inherent instability and unpredictability require prompt evaluation and intervention to mitigate potential neurological complications or prevent life-threatening bleeding. We present a case report of spontaneous internal carotid artery (ICA) rupture.

CASE REPORT: An eighty-eight-year-old male with a history of non-Hodgkin lymphoma and adenocarcinoma of the rectum presented with sudden-onset left cervical pulsatile mass and dysphagia. The patient had no trauma or history of previous surgical intervention on the neck. A computed tomography angiography (CTA) revealed a left internal carotid artery rupture, compressing the cervical structures. Emergent bleeding control was achieved by deploying a 7mm self-expandable stent graft (Viabhan®) in the ICA through a transcervical approach.
Control CTA at 24 hours revealed a "type I endoleak" with contrast leak filling from the proximal landing zone. A transfemoral approach was used for external carotid artery ostial occlusion using an 8mm vascular plug, followed by stent graft extension to the common carotid artery. The patient had resolution of symptoms with no need for surgical decompression. Blood cultures were positive for Pseudomonas aeruginosa. The patient completed 21 days of intravenous antibiotics with piperacillin-tazobactam and switched to oral levofloxacin upon discharge, to maintain for at least 6 months.

CONCLUSION: Carotid rupture is a life-threatening condition, and emergent repair is mandatory. Open surgery carries a high morbidity with a high risk of cranial nerve injury. Endovascular techniques in selected patients allow quicker and safer bleeding control.

P10 Uma nova opção no tratamento endovascular de aneurismas toracoabdominais

Daniela Pereira Silva, Dr. Gonçalo Queiroz Sousa, Dra. Maria José Ferreira, Dr. Gil Marques

Hospital Garcia de Orta

Dada a abordagem minimamente invasiva e os bons resultados a curto e médio prazo, o f-EVAR é considerado uma da principais opções no tratamento dos aneurismas toraco-abdominais. O f-EVAR baseia-se maioritariamente na implantação de endopróteses fenestradas e/ou ramificadas, que implicam a cateterização e stenting dos ramos viscerais. Estas técnicas estão associadas a um alto nível de perícia e de experiência do cirurgião e estão concionadas pelas características anatómicas do aneurisma.
Com vista a simplificar o f-EVAR, foi desenvolvida a Dominus (Braile Biomedica), uma prótese custom-made, que se baseia num novo conceito de fenestração, permitindo a permeabilidade da artéria, sem necessidade de stenting da mesma, através da modulação da força radial dos materiais da prótese.

CASO: Homem de 82 anos, com antecedentes de hipertensão arterial, doença renal crónica, dislipidemia, e AVC há 10 anos com hemiparésia ligeira sequelar, referenciado à consulta por aneurisma toraco-abdominal tipo IV na Classificação de Crawford, assintomático, com dilatação aórtica pós-emergência da artéria mesentérica superior (AMS) e com 5,5 cm de maior diâmetro.
Dadas as comorbilidades do doente e a tortuosidade da aorta visceral, optou-se pela implementação de endoprótese custom-made Dominus Braile com 3 fenestras, uma para a artéria renal (AR) direita, outra para a AMS e outra para o tronco celíaco. Decidiu-se excluir a AR esquerda por atrofia e função residual do rim esquerdo. O procedimento realizou-se sob anestesia geral, após prévia colocação de cateter de drenagem de liquor, e por via percutânea. Foi implantada a endoprótese Dominus com extensão ilíaca esquerda e posterior pós-dilatação da mesma principalmente na emergência da AR direita. Na angiografia final confirmou-se a permeabilidade do tronco celíaco, AMS e AR direita, e imagem de endoleak com aparente origem na AR esquerda. Teve alta 5º dia pós-operatório, que decorreu sem complicações. A angioTC aos 30 dias mostrou a exclusão do aneurisma, a ausência de endoleaks e a permeabilidade das artérias viscerais.
A prótese Dominus apresenta-se como uma alternativa menos complexa em relação ás endopróteses já conhecidas para a aorta toraco-abdominal, destacando-se pela ausência de necessidade de cateterização dos ramos viscerais, diminuição do tempo operatório e prometendo as mesmas taxas de sucesso. No entanto, o seu uso na prática clínica ainda é limitado, sendo necessários mais casos e estudos a longo prazo.

POSTERS EM EXIBIÇÃO

P11 False lumen recycling: could it be a way of treatment?

Filipa Jácome, Leandro Nóbrega, Lara Dias, Diogo Monteiro, Tiago Moura, Tiago Pereira, Margareth Soares, José Vilas-Boas, Rita Piedade, José Teixeira, Joel Sousa, Armando Mansilha

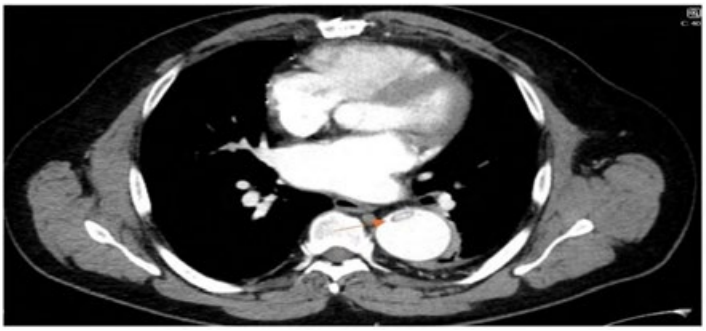
Unidade Local de Saúde de São João

INTRODUCTION: Residual aortic dissection after a type A aortic dissection repair, is a common situation and is a well-known risk factor for aneurysm degeneration, reinterventions and mortality. The rate of reinterventions on the descending thoracic aorta after type A aortic dissection repair is estimated to be between 10 and 40%.

METHODS: Patient's clinical information and imagological studies were reviewed retrospectively.

CASE REPORT: A 53-year-old male patient with previous history of diabetes mellitus, hypertension, dyslipidemia, obesity and obstructive sleep apnea syndrome presented a type A aortic dissection with significative aortic insufficiency, that was successfully submitted to open surgical correction (Bentall surgery) in 2014. Patient was under medical therapy that included statin, antiplatelet and antihypertensive therapy and yearly postoperative surveillance was realized. Ten years later, computed tomography (CT) revealed residual aortic dissection with a maximum aortic diameter of 58mm in the aortic arch, with involvement of braquiocephalic trunk, left common carotid artery and left subclavian artery and extending to the common iliac arteries (Figure 1), that required surgical treatment. True lumen was almost totally collapsed in some areas of descendent thoracic aorta, which turns impossible the deployment of an endoprosthesis in the true lumen. Thus, it was decided to realize a Frozen Elephant Trunk (Thoracoflexâendoprosthesis) with two TEVAR endoprosthesis in descendent thoracic aorta, through the false lumen, with extension until 2cm above celiac trunk (Figure 2). At day 5 after surgery, patient was extubated and was diagnosed with bilateral lower limb paraplegia, with evidence of spinal cord ischemia in magnetic resonance. Progressive improvement along hospitalization time was verified with favorable deficits recovery.

CONCLUSION: The treatment of residual type A aortic dissections remains challenging and controversial. Hybrid endovascular treatment with TEVAR implantation in the false lumen for a dissecting aortic aneurysm with compressed true lumen showed to be a feasible and effective option in these complex cases. Regardless of the type of intervention, the incidence of complications or death remains high, even when undertaken in an elective setting.



P12 Common iliac artery aneurysm with an unique anatomy – combination of an aortic IBE and an iliac sandwich technique

Patrícia Carvalho[1], Daniel Brandão[1], João Peixoto[1], Luís Fernandes[1], Roberto Cunha[2], Marta Machado[1], Francisco Basílio[1], Beatriz Guimarães[1], Alexandra Canedo[1]

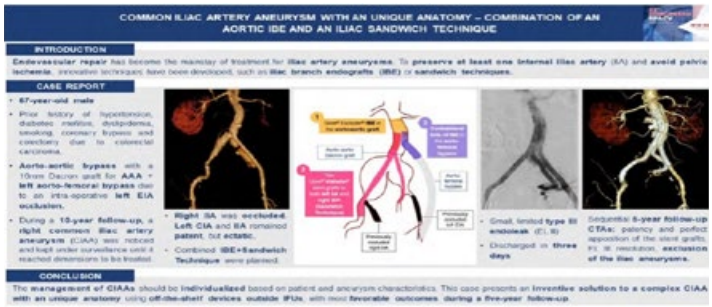
[1] Unidade Local de Saúde de Gaia e Espinho, [2] Hospital do Divino Espírito Santo de Ponta Delgada

INTRODUCTION: Endovascular repair has become the mainstay of treatment for iliac artery aneurysms. To preserve at least one internal iliac artery (IIA) and avoid pelvic ischemia, innovative techniques have been developed, such as iliac

branch endografts (IBE) or sandwich techniques (ST).
Herein, we present a case of combined IBE and ST to treat a right common iliac artery aneurysm (CIAA) in a patient with a history of aorto-aortic and aorto-femoral grafts associated with right IIA and left external iliac artery (EIA) chronic occlusions.

CASE REPORT: A 67-year-old male with a prior history of smoking, hypertension, diabetes mellitus, dyslipidemia, coronary bypass and colectomy due to colorectal carcinoma, underwent an aorto-aortic bypass with a 16mm Dacron graft to correct an infrarenal abdominal aortic aneurysm. During surgery, a left aorto-femoral bypass was required due to an intra-operative ischemic complication with left EIA occlusion. During a ten-year follow-up, a right CIAA was noticed and kept under surveillance until it reached dimensions to be treated. Also, the right IIA was chronically occluded, while the left CIA and IIA remained patent, but ectatic.
Given the patient's past medical history, an endovascular approach combining an IBE and a ST was planned based on the singular anatomy, including the length of the previous aortic graft and the presence of an aorto-femoral graft, as well as the right IIA and left EIA occlusions.
Due to the short distance from the lowest renal artery to the aorto-femoral graft, a Gore® Excluder® IBE, instead of a standard EVAR, was deployed inside the aorto-aortic graft. To preserve the only patent IIA, a ST was used with deployment of two Gore® Viabahn® stent grafts to both left IIA and right EIA. A standard iliac limb was then deployed from the side branch of the IBE to the aorto-femoral graft. Completion angiography showed a small, limited type III endoleak (EL).
The patient remained asymptomatic and was discharged three days after the procedure.
Sequential five-year follow-up CTAs constantly showed patency and perfect apposition of the stent grafts, with resolution of type III EL and exclusion of the iliac aneurysms.

CONCLUSION: The management of CIAAs should be individualized based on patient and aneurysm characteristics. This case presents an inventive solution to a complex CIAA with an unique anatomy using off-the-shelf devices outside IFUs, with most favorable outcomes during a five-year follow-up.



P13 A new syndrome of carotid artery compression by the great horner of hyoid bone

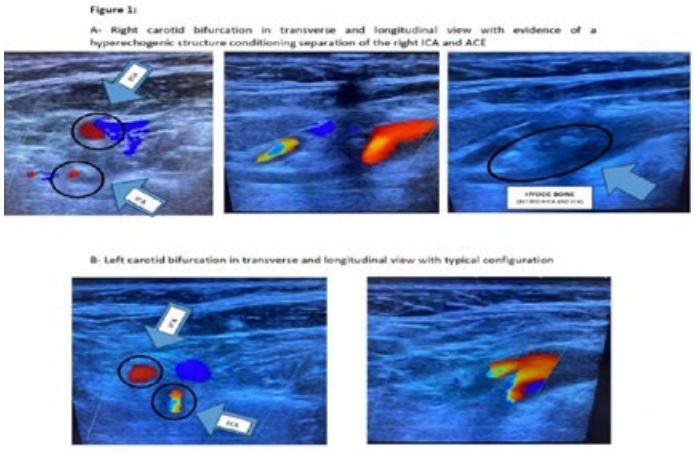
Marta Machado, Joao Peixoto, Luis Fernandes, Roberto Boal, Francisco Basilio, Patricia Carvalho, Beatriz Guimaraes, Pedro Brandao, Alexandra Canedo

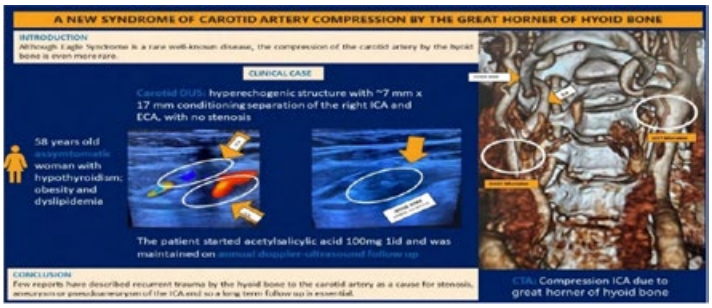
ULSGE

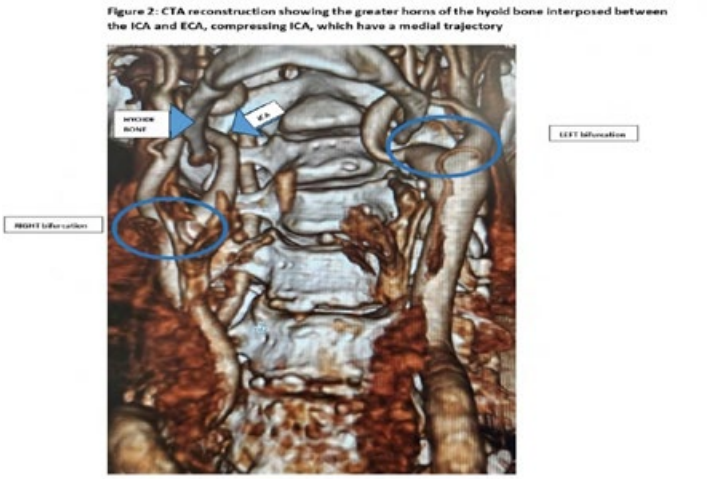
INTRODUCTION: Although Eagle syndrome is a rare well-known disease, the compression of the carotid artery by the hyoid bone is even more rare. The hyoid bone has a common embryological origin with styloid apophysis, both being connected through a stylohyoid ligament (stylohyoid complex). The compression of internal carotid artery (ICA) due to greater horn of the hyoid requires a combination of elongated greater horn of the hyoid bone dorsally protruding from the larynx, low carotid bifurcation, and elongation or kinking of ICA.

CLINICAL CASE: 58 years old woman, with hypothyroidism; obesity and dyslipidemia performed in a private clinic a carotid doppler-ultrasound which showed a hyperechogenic structure with ~7 mm x 17 mm conditioning separation of the right ICA and external carotid artery (ECA) and a right ICA stenosis <50% (Figure 1 A, B).
At our vascular surgery consultation, she denied any clinical complain. CT scan revealed no significant stenoses or atheromatous plaques of the carotid bifurcations. However, the right bifurcation occurs posterior to the superior horn of the thyroid cartilage (compared to the lateral positioning of the left bifurcation); Additionally, the greater horns of the hyoid bone are interposed between the ICA and ECA, compressing ICA, which have a medial trajectory, tortuosity and kinking of the proximal cervical segment. (Figure 2)
The patient started acetylsalicylic acid 100mg 1id and was maintained on annual doppler-ultrasound follow up.

CONCLUSION: Few reports have described recurrent trauma by the hyoid bone to the carotid artery as a cause for stenosis, aneurysm or pseudoaneurysm of the ICA and so a long term follow up is essential.







P14 Major vascular complications after varicose veins conventional surgery

Marta Machado, Joao Peixoto, Luís Fernandes, Roberto Boal, Francisco Basílio, Patrícia Carvalho, Beatriz Guimarães, Ricardo Gouveia, Clara Nogueira, Vitor Martins, Pedro Brandão, Alexandra Canedo

ULSGE

INTRODUCTION: Iatrogenic vascular injuries during varicose veins surgery are rare (0.0017-0.3%).
However arterial injury can be a catastrophic complication with high rate of amputation and venous injuries may lead to life-threatening hemorrhagic events and/or thrombotic events.

RESULTS:

Clinical case 1
45 years old woman, submitted to varicose veins surgery of lower limb 2 weeks earlier in another hospital, presented with pain and paresthesias in the foot. She had hematoma in the thigh, paler foot and no popliteal/distal pulses. On doppler-ultrassound was visualized a hematoma at the femoral bifurcation and thrombosis of SFA. CTA confirmed SFA partial avulsion. Thrombectomy and a femoro-femoral interposition graft with GSV were performed. (Figure1)
At 1 year she is asymptomatic and with feet pulses.

Clinical case 2
41year-old male, submitted to varicose vein surgery in another institution, with reported massive bleeding controlled by local compression, was transferred six days after to our department with severe edema of the limb. Doppler and CTA confirmed extensive thrombosis with partial loss of integrity of venous femoroiliac segment. She was submitted to an IVC filter, thrombectomy and femoroiliac interposition graft. (Figure 2)
At six months follow-up there was no edema and graft was patent.

Clinical case 3
29-year-old man was sent from another hospital with massive bleeding due to common femoral vein avulsion during varicose vein surgery. A femoral - external iliac vein interposition graft was performed.
15 years after, he remains asymptomatic with permeable graft.

Clinical case 4
51-year-old woman with history of varicose vein surgery at age 34 complicated with right femoral vein thrombosis. At the time the patient was hypocoagulated and wore elastic stockings.
15 years later she went to vascular surgery consultation with complaints of severe edema in the lower limb. Doppler-ultrassound showed stenosis of the femoral vein compensated by collaterals. She underwent phlebography with angioplasty and stenting of femoral vein. (Figure 4)The patient is asymptomatic at 1 month.

CONCLUSION: Although varicose veins surgery is associated with low morbidity, the sequelae of major vascular complications can have a great impact in lives of the young and active population.
Visualization of the saphenofemoral junction and its relationship with the deep femoral vein and routine checking of arterial circulation at the end of the procedure are mandatory.

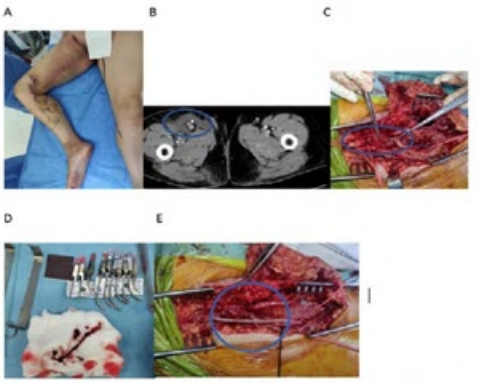


Figure 1: A- Leg with bulky hematoma at the thigh and pale foot; B – AngioCT with SFA thrombosis; C- Intraoperative visualization of SFA avulsion; D- Thrombus after thrombectomy; E- GSV interposition graft

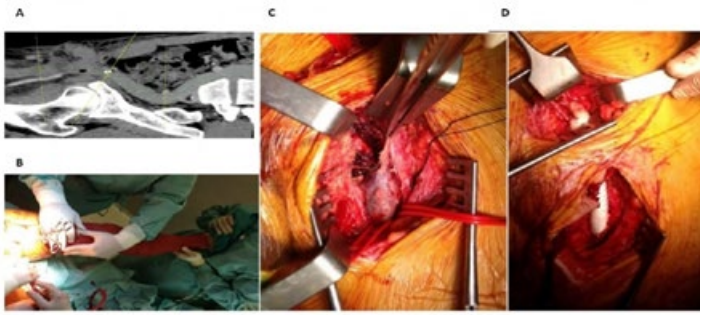


Figure 2

A- Linear reconstruction of AngioCT showing the loss of integrity of the femoro-iliac segment
B- Intraoperative picture showing the elastic compression for thrombectomy
C- Intraoperative pictures showing the loss of wall integrity of the femoral vein (left)
D- Intraoperative picture showing femoro-iliac interposition graft (right)

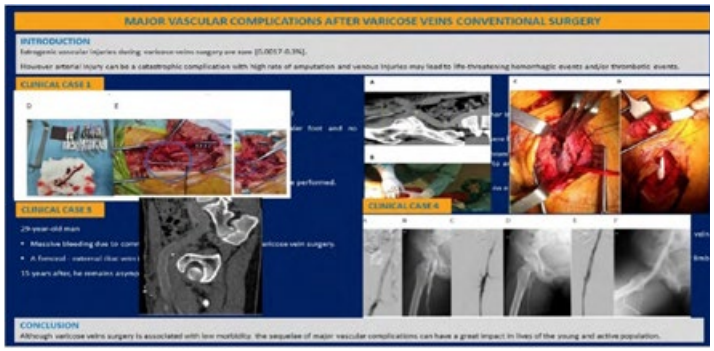


Figure 4: Intraoperative angiography. A: Common femoral vein stenosis with collateralization; B: Angioplasty; C: result after angioplasty; D: Stent deployment; E:result after stent deployment; F: no kinking of stent with thigh abduction

P15 Infectious pseudoaneurysm of the aortic arch – a ticking time ChTEVAR!

Patrícia Carvalho[1], Daniel Brandão[1], João Peixoto[1], Luís Fernandes[1], Roberto Cunha[2], Marta Machado[1], Francisco Basílio[1], Beatriz Guimarães[1], Alexandra Canedo[1]

[1] Unidade Local de Saúde de Gaia e Espinho, [2] Hospital do Divino Espírito Santo de Ponta Delgada

INTRODUCTION: Aortic arch infectious aneurysms (AAIAs) are a rare but life-threatening condition. Herein, we present a case of an infectious pseudoaneurysm (PA) of the aortic arch successfully managed with Chimney Thoracic Endovascular Aortic Repair (ChTEVAR) and prolonged antibiotic therapy.

CASE REPORT: A 68-year-old male, with a prior history of coronary stenting, presented to his local hospital complaining of thoracic pain persisting for two weeks. On physical examination he was febrile and bradycardic. Laboratory results revealed leukocytosis and C-reactive protein elevation. D-dimer test and myocardial necrosis biomarkers were negative. EKG showed no ST-segment abnormalities. A CT angiography (CTA) was performed, showing a small penetrating ulcer of the aortic arch in the emergency of the left subclavian artery, associated with periaortic soft tissue growth and fat stranding. A septic screening was performed and amoxicillin/clavulanic acid was empirically initiated. Blood cultures were subsequently positive for Methicillin-sensitive Staphylococcus aureus (MSSA) and antibiotic therapy was switched to flucloxacillin. Ecocardiography showed no vegetations. Meanwhile, sequential CTAs performed in a 6-day interval showed a rapidly evolving aortic arch PA, suggesting an infectious etiology.

After multidisciplinary evaluation, the patient was considered unfit for open surgery and was proposed to endovascular repair. He was transferred to our institution where he was submitted to a ChTEVAR using Gore® C-TAG® stent grafts (proximal landing zone 0), a Gore® Excluder® iliac extension to the brachiocephalic trunk and a Gore® Viabahn® to the left common carotid artery. The left subclavian artery was occluded using an Amplatzer™ Plug II.

The patient remained stable and apyretic during hospital stay with decreasing of inflammatory parameters. Sequential follow-up CTAs showed patency and good apposition of the stent grafts with complete exclusion of the PA. Thus, he was discharged within two weeks under dual antiplatelet therapy and flucloxacillin for 6 months.

CONCLUSION: AAIAs are very rare and their clinical presentation is unspecific. Once the diagnosis is established, appropriate antibiotic therapy should be started. Although open surgery with debridement of infected tissue is still the gold-standard, endovascular repair with off-the-shelf devices might be the first option in unstable or unfit patients.

P16 Navigating the management challenges of spontaneous isolated mesenteric artery dissection

Henrique Almeida, Daniel Mendes, João Castro, Henrique Rocha, Andreia Pinelo, Miguel Queirós, João Cabral, Samuel Cardoso, Rui Machado

Unidade Local de Saúde Santo António

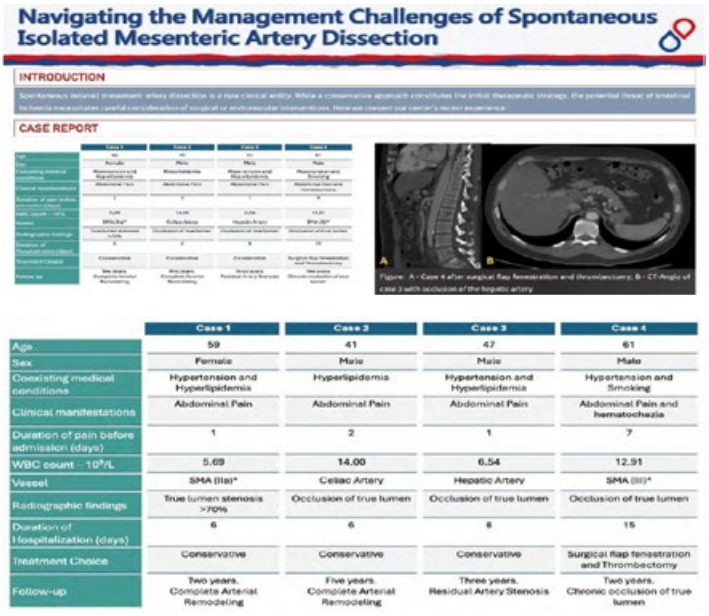
INTRODUCTION: Spontaneous isolated mesenteric artery dissection (IMAD) is a rare clinical entity presenting intricate challenges in both diagnosis and management. While a

conservative approach constitutes the initial therapeutic strategy, the potential threat of intestinal ischemia necessitates careful consideration of surgical or endovascular interventions. Here we present our center's recent experience.

METHODS: This is a retrospective case series with contemporaneous clinical data collection of four patients who presented to a tertiary hospital between January 2018 and December 2023.

CASE REPORTS: Four cases of IMAD were identified, with patients aged between 41 and 61 years; three were male. All patients presented to the emergency department with abdominal pain. None had history of illegal drug abuse. In two cases, the dissections involved the superior mesenteric artery and the celiac arteries or their branches in the remaining. Initial management comprised conservative measures, including hydration, blood pressure control, bowel rest, proton pump inhibitors, and antithrombotic therapy with single antiplatelet therapy and perfusion of unfractionated heparin. One patient underwent open surgery with flap fenestration and thrombectomy due to difficult-to-control abdominal pain and evidence of small bowel wall edema on computed tomography angiography, suggestive of ongoing intestinal ischemia. A second-look laparotomy has been made, showing a complete reversal of ischemic changes. None of the patients required bowel resection. The mean duration of hospitalization was 8,75 days. Upon discharge, all patients were prescribed single platelet therapy, statin, and direct oral anticoagulation therapy. Follow-up assessments revealed completed vessel remodeling without aneurysm degeneration, except for one patient with chronic occlusion of the dissected vessel without clinical impact.

CONCLUSION: Conservative therapy remains the primary strategy for managing uncomplicated IMAD, although operative treatment may be necessary in some cases. This case series demonstrates favorable long-term survival outcomes without morbidity or mortality in our patient cohort.



	Case 1	Case 2	Case 3	Case 4
Age	59	41	47	61
Sex	Female	Male	Male	Male
Coexisting medical conditions	Hypertension and Hyperlipidemia	Hyperlipidemia	Hypertension and Hyperlipidemia	Hypertension and Smoking
Clinical manifestations	Abdominal Pain	Abdominal Pain	Abdominal Pain	Abdominal Pain and hematochezia
Duration of pain before admission (days)	1	2	1	7
WBC count – 10^3/L	5.69	14.00	6.54	12.91
Vessel	SMA (IIa)*	Celiac Artery	Hepatic Artery	SMA (III)*
Radiographic findings	True lumen stenosis >70%	Occlusion of true lumen	Occlusion of true lumen	Occlusion of true lumen
Duration of Hospitalization (days)	6	6	8	15
Treatment Choice	Conservative	Conservative	Conservative	Surgical flap fenestration and Thrombectomy
Follow-up	Two years. Complete Arterial Remodeling	Five years. Complete Arterial Remodeling	Three years. Residual Artery Stenosis	Two years. Chronic occlusion of true lumen

P17 Stabilise technique for post dissection thoracoabdominal aneurysm rupture

Gonçalo Araújo[1], Dr. Ricardo Correia, Dr. Tiago Ribeiro, Dra. Maria Emília Ferreira[2]

[1] Hospital de Santa Marta, [2] Hospital Santa Marta

INTRODUCTION: Thoracoabdominal aneurysm is a common complication of aortic dissection. These aneurysm has increased rates of rupture compared with degenerative aortic aneurysm. The urgent treatment of post-dissection aortic aneurysm rupture is challenging. The stent assisted balloon-induced intimal disruption and relamination in aortic dissection repair (STABILISE) technique represents a significant advancement in the field of vascular surgery by offering a tailored and minimally invasive approach to address malperfusion syndrome on acute-subacute aortic dissections. This technique combine TEVAR with bare metal stent deployment and post-dilation. There are limited reports on this matter, however, in recent years, there has been growing evidence supporting the efficacy and safety of the STABILISE technique inthe management of rupture thoracoabdominal aneurysms following aortic dissection.

CLINICAL CASE: This case concerns an 80 year old man, previously independent on daily basis activities, with relevant medical history including paroxysmal atrial fibrillation, severe aortic regurgitation treated with bioprosthetic aortic valve replacement, and a history of Stanford type A aortic dissection, DeBakey type 1, acutely treated with Bentall plus frozen elephant trunk (FET) surgery 2 years ago in another hospital. The patient presented to the emergency department with exertional intolerance, generalized weakness, marked pallor and sweating. On admission, he was prostrate, with brief periods of ocular response and hemodynamic instability (blood pressure 50/30 mmHg). On physical examination, prolonged capillary refill time (>5 seconds) and marble skin were noted. Blood lactate was elevated at 6.6 mmol/L. Initially, the patient was diagnosed with septic shock and received antibiotic therapy and volume resuscitation, resulting in hemodynamic improvement. A chest X-ray revealed extensive left pleural effusion, prompting a chest CT angiography, which showed left hemothorax associated with a 5,9 cm post-dissection thoracoabdominal aortic aneurysm (Crawford type I). The lower end of the aneurysm and the dissection flap was at the level of the renal arteries. The patient was transferred to Santa Marta Hospital for emergent surgery. He underwent aortic rupture exclusion using the STABILISE technique: Zenith Alpha (Cook®) 42x42x225mm endoprosthesis deployment into the true lumen with the proximal third sealed at the lower half of the FET and the distal segment ending just proximal to the celiac trunk; Zenith Dissection Endovascular Stent (Cook®) 46x46x120mm was deployed across the visceral aorta until above the aortic bifurcation; the endoprosthesis and the stent were post-dilated using a compliant Coda (Cook®) balloon. The control angiography showed exclusion of the false lumen and the aneurysm and patency of the visceral arteries only after the stent post-dilation. In the immediate postoperative period, the patient

experienced two episodes ofcardiac arrest with successful resuscitation. A follow-up chest CT angiography ruled out acute aortic complications and confirmed surgery technical success.After two weeks of clinical improvement, the patient died from septic shock from respiratory infection.

CONCLUSIONS: The STABILISE technique, besides being more commonly described for the treatment of complicated acute aortic dissection, can be a life-saving treatment modality in the emergent treatment of post-dissection aortic aneurysm rupture. The anatomy of the dissection flap and the aneurysm favored this treatment modality in this patient. The intraoperative major challenges include the inability to predict how the STABILISE technique will affect the visceral vessel ostia and the risk of iatrogenic aortic rupture.

P18 Endovascular treatment of a brachiocefalic artery aneurysm

Carolina Tavares, Rita Garcia, Fábio Pais, Tiago Ribeiro, Adriana Figueiredo, Helena Fidalgo, Joana Cardoso, Inês Gueifão, Gonçalo Araújo, Vanda Pinto, Ana Garcia, Maria Emília Ferreira

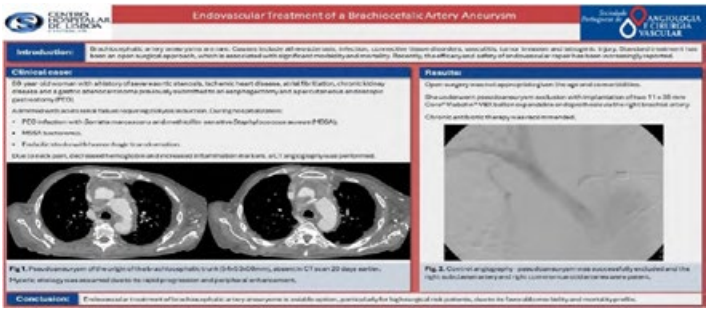
ULS São José - Hospital Santa Marta

Brachiocephalic artery aneurysms (BCAA) are rare, representing 3% of supra-aortic arterial aneurysms. Although atherosclerosis is the most common cause, alternative causes include infection, connective tissue disorders, vasculitis, tumor invasion, and iatrogenic injury. They are usually asymptomatic but may present with thrombosis, embolization, compressive symptoms or rupture. Standard treatment has been an open surgical approach, which is associated with significant morbidity and mortality. Recently, the efficacy and safety of endovascular repair has been increasingly reported. We present a case of a large, rapid growing BCAA in a high surgical risk patient treated endovascularly.

The patient is an 80-year-old woman with a history of severe aortic stenosis, ischemic heart disease, atrial fibrillation, chronic kidney disease and a gastric adenocarcinoma previously submitted to an esophagectomy and a percutaneous endoscopic gastrostomy (PEG). She was admitted with acute renal failure requiring dialysis induction. During hospitalization, the patient developed a PEG infection with Serratia marcescens and methicillin-sensitive Staphylococcus aureus (MSSA), MSSA bacteremia and an embolic stroke with hemorrhagic transformation. Endocarditis was excluded by an echocardiogram and a PET scan.

Due to neck pain, decreased hemoglobin and increased inflammation markers, a CT angiography was performed, revealing a 54x53x50mm pseudoaneurysm of the origin of the brachiocephalic trunk, which was absent in a CT scan performed 20 days earlier. Mycotic etiology was assumed due to its rapid growth and peripheral enhancement. Cardiac surgeons deemed open surgery not appropriate given the patient's age and comorbidities. Therefore, she underwent pseudoaneurysm exclusion with implantation of two 11 x 38 mm Gore® Viabahn® VBX ballon expandable endoprothesis via the right brachial artery. Control angiography confirmed that the pseudoaneurysm was successfully excluded and that the right subclavian artery and right common carotid arteries were patent. Chronic antibiotic therapy was recommended.

Endovascular treatment of BCAA is a viable option, particularly for high surgical risk patients, due to its favorable morbidity and mortality profile.



P19 Arterio-ureteral fistula: a case of significant hematuria

Roberto Cunha, Manuel Silva, Pedro Sousa, Mafalda Correia, Isabel Vieira, Isabel Cássio, Nelson Oliveira, Emanuel Dias

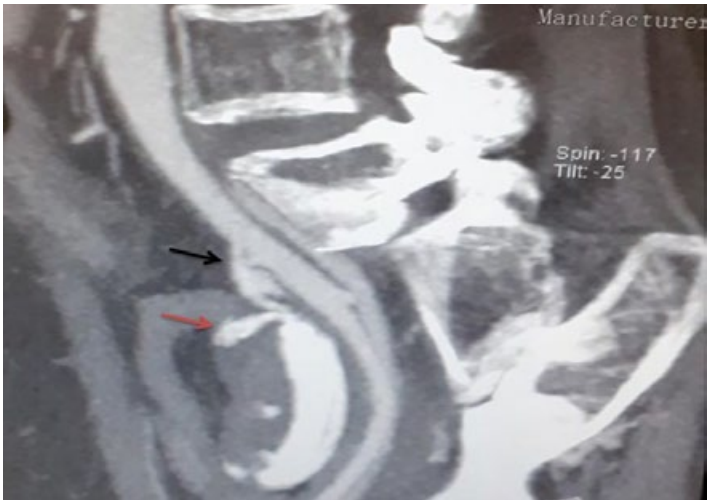
Hospital do Divino Espirito Santo de Ponta Delgada

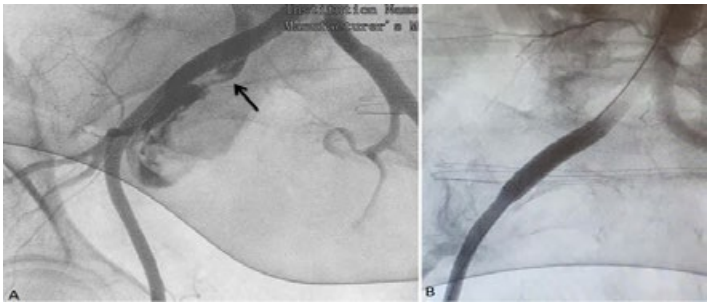
INTRODUCTION: Arterio-ureteral fistulas (AUFs) are rare (incidence 0.04–0.06%) but life-threatening with mortality rates ranging from 7 to 23%. While most fistulas are secondary to ureteral manipulation and cancer, those of primary etiology are associated with aneurysmatic arterial disease. Diagnosis requires a high level of suspicion since symptoms like hematuria and back pain are nonspecific.

REPORT: A 84-year-old female underwent pelvic exenteration and cutaneous ureteroileostomy for high-grade urothelial carcinoma. In the postoperative period, an ileostomy with reconstruction of ureteroileal anastomoses and bilateral nephrostomies was required due to intestinal dehiscence with an abscess. She completed broad-spectrum antibiotics and antifungal therapy and was discharged with catheterized ureters. About 4 months later, the patient presented to the emergency department (ED) on hemorrhagic shock with profuse bleeding through the ureteroileostomy, with a drop of hemoglobin to 5.5 g/dl. A CT angiography identified a fistula between the right common iliac artery and the ureteroileostomy. She underwent emergency angiography and fistula exclusion with a covered stent. During the remaining hospital stay, there were no bleeding recurrences

and the patient was discharged on the 21st postoperative day after completing antibiotic therapy directed to urine cultures. About 1 month later she was hospitalized again for acute kidney injury with ionic changes and complicated urinary tract infection, ending up dying from this cause.

DISCUSSION: ARadiation therapy and pelvic or vascular surgical procedures may affect the integrity of the vasa vasorum leading to a weakening of the adventitia and media of the arteries, increasing their susceptibility to rupture and necrosis. The mechanical trauma produced by the repeated pulsation of either a native artery or graft over a weakened ureter with a rigid catheter/stent inside it, may trigger the fistula.
AUF can be managed by surgical intervention which may include nephroureterectomy, local reconstruction techniques, arterial ligation or bypass grafting. Endovascular exclusion with stent graft appears to be an effective and safe therapeutic choice, although recurrence of hematuria, infection or stent thrombosis have been described. There is no consensus on whether or not the ureteral side needs to be treated after endovascular stent graft deployment.





P20 Diffusing a ticking time bomb: endovascular treatment of a giant intercostal aneurysm

Francisco Basilio, Ana Carolina Semião, Clara Nogueira, Ricardo Gouveia, João Peixoto, Luís Fernandes, Roberto Boal, Marta Machado, Patricia Carvalho, Beatriz Guimarães, Alexandra Canedo

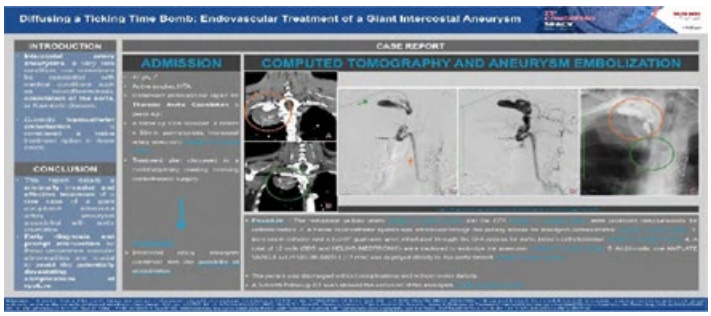
ULSGE

INTRODUCTION: Intercostal artery aneurysms, a very rare condition, can sometimes be associated with medical conditions such as neurofibromatosis, coarctation of the aorta, or Kawasaki disease. Currently, transcatheter embolization is considered a viable treatment option in these cases.

.

CASE REPORT: A 46 yo male underwent endovascular repair for thoracic aortic coarctation. Five years later, he was found to have a 60mm x 59mm asymptomatic saccular aneurysm of the second right intercostal artery on computed tomography (CT). The patient underwent endovascular embolization of the aneurysm via puncture of the femoral and axillary artery. A total of 12 coils (3D® and HELIX® MEDTRONIC) were used, along with one AMPLATZ VASCULAR PLUG II® ABOTT plugs (12mm). The patient was discharged without complications and without motor deficits. A 3-month follow-up CT scan showed the exclusion of the aneurysm.

CONCLUSION: This report details a minimally invasive and effective treatment of a rare case of a giant unruptured intercostal artery aneurysm associated with aortic coartation. Early diagnosis and prompt intervention for these uncommon vascular abnormalities are crucial to avoid the potentially devastating complications of rupture.



P21 Sandwich technique embolization in a ruptured splenic aneurysm

Helena Fidalgo, Tiago Ribeiro, Joana Cardoso, Fábio Pais, Carolina Tavares, Inês Gueifão, Gonçalo Araújo, Ricardo Correia, Daniela Gonçalves, Maria Emília Ferreira

Hospital de Santa Marta

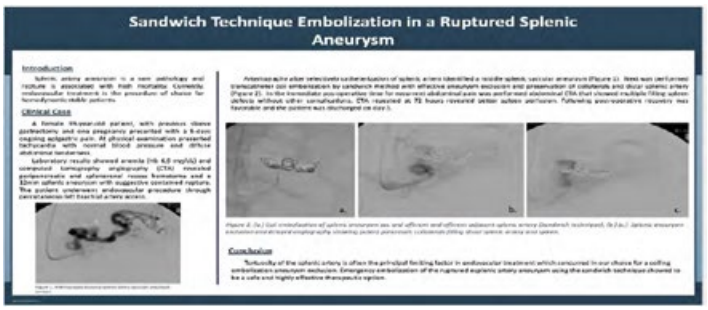
INTRODUCTION: Splenic artery aneurysm is rare and rupture is associated with high mortality. Currently, endovascular treatment is the procedure of choice for hemodynamic stable patients. Nevertheless, the modality of choice must be individualized.

OBJECTIVES: To describe a clinical case of a ruptured splenic artery aneurysm.

METHODS: Based on clinic report.

RESULTS: A female 39-year-old patient, with previous sleeve gastrectomy and one pregnancy presented with a 5-days ongoing epigastric pain. At physical examination, she presented tachycardia with normal blood pressure and diffuse abdominal tenderness. Laboratory results showed anemia (Hb 6,9 mg/dL) and computed tomography angiography (CTA) revealed peripancreatic and splenorenal recess hematoma and a 12mm splenic aneurysm with suggestive contained rupture. The patient underwent endovascular procedure. Arteriography after selectively catheterization of splenic artery identified a middle splenic artery saccular aneurysm after a double coiled proximal artery. It was excluded with transcatheter coil embolization by the sandwich method. Delayed angiography showed patent pancreatic collaterals filling distal splenic artery and spleen. The patient developed upper left abdominal pain and was taken to CTA, that showed filling spleen defects. The pain subsided and the CTA at 72 hours revealed a global spleen delayed perfusion without a defined infarction. The patient was discharged asymptomatic on day 5.

Conclusion: Tortuosity of the splenic artery is often the main limiting factor in endovacular treatment, which concurred in our choice for a coiling embolization aneurysm exclusion. Emergency embolization of the ruptured esplenic artery aneurysm using the sandwich technique showed to be a safe and highly effective therapeutic option.



P22 Complex right shoulder vascular malformation: congenital, traumatic or both?

João Marcelo Cabral, Samuel Cardoso, Miguel Queirós, Henrique Almeida, Andreia Pinelo, João Diogo Castro, Henrique Rocha, Pedro Sá Pinto, Ivone Silva, Rui Machado

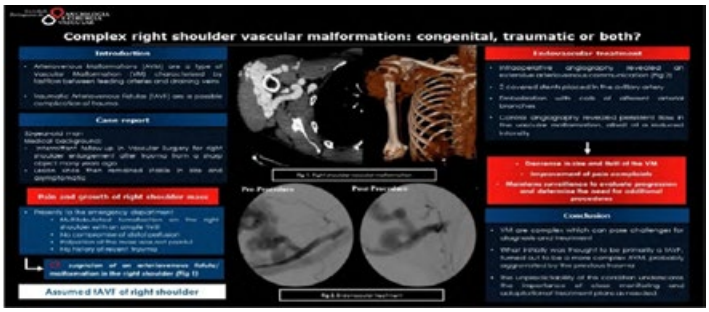
Unidade Local de Saúde de Santo António

INTRODUCTION: Vascular Malformations (VM) are anomalies that arise due to compromised vascular morphogenesis. Arteriovenous Malformations (AVM) are a type of VM, characterized by fastflow between feeding arteries and draining veins. Traumatic Arteriovenous Fistulas (tAVF) are a possible complication of trauma, conditioning complex arterial and venous injuries and adaptative changes in the vessels.

METHODS: A retrospective analysis of electronic medical records and imaging was conducted.

CASE REPORT: A 52-year-old male presents to the emergency department with complaints of right shoulder tumefaction growth and pain in the last month.
The patient was followed inconsistently in vascular surgery appointments for more than ten years due to a right shoulder VM. He had a history of right shoulder trauma with a sharp object in 2004 with temporary growth of the VM and a conservative approach was followed at the time. The lesion remained stable in size until this new episode.
A CT scan was performed, revealing the suspicion of an arteriovenous fistula/malformation in the right shoulder with large arterial inflows from the subclavian/axillary artery, along with early venous drainage equally into the subclavian/axillary vein.
After discussing the options with the patient and considering a diagnosis of tAVF, endovascular treatment was proposed. Two covered stents were placed in the axillary artery to decrease the arterial supply of the VM, resulting in a slight reduction of the flow. Subsequentially, afferent arterial branches of the VM originating from the subclavian and the axillary artery distally to the stents were selected and embolized with coils. Control angiography revealed persistent flow in the vascular malformation, albeit at a reduced intensity.
After the procedure, there was a decrease in size and thrill of the VM, with the patient reporting a reduction in the feeling of pulsatility of the lesion.

CONCLUSION: This case highlights the complex nature of VM, which can pose challenges for diagnosis and treatment. These lesions require careful evaluation and management by an experienced professional.
In this case, what seemed at first mainly a tAVF, turned out to be a more complex AVM, probably aggravated by the previous trauma. Consequently, the unpredictability of this conditions underscore



P23 Intraarterial misplaced cvc: remotion with balloon assisted proglide closure

Marta Machado, Daniel Brandão, João Peixoto, Luís Fernandes, Roberto Boal, Francisco Basilio, Patrícia Carvalho, Beatriz Guimarães, Pedro Brandão, Alexandra Canedo

ULSGE

INTRODUCTION: Few case reports of accidental subclavian artery catheterization have been published following internal jugular vein insertion.
Multi-disciplinary discussion between vascular surgery and the medical team is essential prior to removal to reduce the risk of life-threatening situations such as acute bleeding

CLINICAL CASE: 78-year-old man who was brought in by emergency medical services minimally responsive with hemodynamic instability. The emergent decision was made to proceed with 9.5 Fr central venous catheter (CVC) placement in the emergency department. Few hours later the need for further testing revealed the CVC (that was previously functioning without difficulty) was arterial.
CTA demonstrated CVC was inserted into the right subclavian artery ~1cm proximal to bifurcation of brachycephalic trunk. (Figure 1)
Vascular surgery was contacted and the patient underwent CVC removal and closure with balloon-assisted proglide (Figure 2). Regarding procedure, the patient was submitted to right brachial puncture and 5Fr introducer inserted. Placement of a rigid guide through the CVC and CVC removal. Change to 8Fr-9Fr-7Fr introducer followed to proglide placement. Balloon inflation. Control angiography without contrast extravasation. 5Fr introducer removal and manual compression
The procedure was uneventfully and the patient didn´t have any complication regarding this iatrogenesis.

CONCLUSION: Due to the CVC being introduced near the bifurcation of the brachiocephalic arterial trunk, there was no possibility of placing a stent due to the risk of compromising the carotid artery ostium. This off label technique proved to be an excellent, safe and effective alternative treatment option.

Figure 1- CTA showing CVC inserted into the right subclavian artery ~1cm proximal to bifurcation of brachycephalic trunk

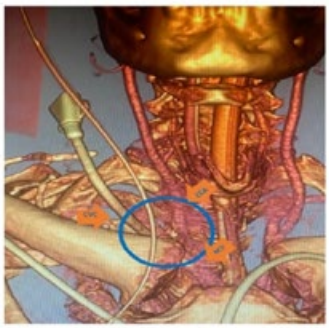
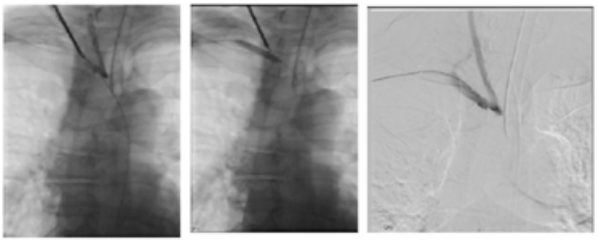
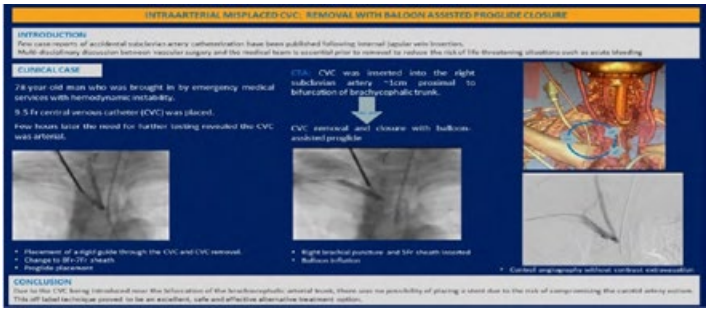


Figure2- CVC removal and closure with balloon-assisted proglide





P24 Aortoenteric fistula: what are the limits of treatment

Inês Antunes, Carlos Pereira, Rui Machado

ULS Santo António

INTRODUCTION: Prosthetic infection is an uncommon complication after EVAR, estimated at 0.16% after two years. The presence of an aorto-enteric fistula is even rarer and increases the difficulty of treatment. The best surgical treatment has not been defined given the complexity and low prevalence of these cases. This clinical case reflects the complexity and demands that these cases can involve.

CLINICAL CASE: Male patient, 79 years old, underwent EVAR two years ago. He went to the emergency department due to low back pain and fever that had lasted two weeks. An angioTAC was performed which revealed correct sealing of the endoprosthesis, a peri-prosthetic collection not present in the previous angioTAC (performed approximately

1 month before) and disappearance of the cleavage plane between the aneurysm and the duodenum. The patient was admitted with a diagnosis of prosthetic infection with possible aortoenteric fistula. An upper digestive endoscopy was performed, which identified a deep ulceration in the fourth portion of the duodenum, and the hypothesis of a tumor lesion was hypothesized. Repeated control CT angiography showed an increase in the peri-prosthetic collection and disruption of the aneurysmal wall, making the definitive diagnosis of aortoenteric fistula. Axillo-bifemoral bypass was performed followed by exploratory laparotomy with total removal of the endoprosthesis, arterial suture (proximal aortic and iliac) and primary duodenal suture. A control CT scan was performed, which showed thrombosis from the aortic stump to the renal arteries, without evidence of infection. At 43 days, he presented with hematemesis, and CT scan was performed, which revealed contrast extravasation in the aortic stump and a new image of a enteric fistula. An emergent embolization of the aortic stump (with coils and thrombin) was performed. The intraoperative endoscopy showed a new duodenal fistula and visualization of embolization material in the duodenal wall. A new laparotomy was performed, with partial duodenectomy and duodeno-jejunal anastomosis and resuturing of the aortic stump.

DISCUSSION/CONCLUSIONS: Wortoenteric fistula is a complex pathology. Postoperative complications can be catastrophic if not detected early. The combination of conventional and endovascular surgery proved decisive in this case.

P25 Isquemia aguda de membro após politrauma

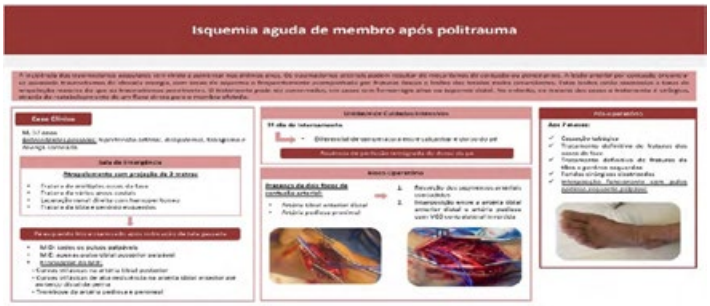
Manuel Silva, Roberto Cunha, Isabel Vieira, Pedro Maximiano, Mafalda Correia, Nelson Oliveira, Isabel Cássio, Emanuel Dias

Hospital do Divino Espírito Santo

INTRODUÇÃO: POs traumatismos vasculares, apesar de presentes numa pequena percentagem dos doentes traumatizados, estão associados a uma elevada taxa de morbilidade e mortalidade. Os estes podem resultar de mecanismos de contusão ou penetrantes. Os mecanismos de contusão são mais frequentes nos traumatismos dos membros inferiores e encontram-se habitualmente associados a sinais de isquemia.

CASO CLÍNICO: Doente do sexo masculino, de 57 anos. Antecedentes pessoais de hipertensão arterial, dislipidemia, tabagismo ativo e doença coronária. Observado na sala de emergência por politrauma após atropelamento com projeção de 3 metros. Doente com múltiplas fraturas dos ossos da face, arcos costais, laceração renal, fratura da tíbia e perónio esquerdos. À observação com pé frio e cianosado, pulso tibial posterior palpável, sendo que ao ecodoppler apresentava curvas trifásicas na artéria tibial posterior e plantares, curvas trifásicas de alta resistência até ao terço distal da artéria tibial arterial anterior e ausência de fluxo da artéria pediosa e peroneal. Assim sendo, inicialmente foi adotada uma atitude conservadora por manter um eixo arterial direto até ao pé. Após 24 horas, por manter diferencial de temperatura entre o calcanhar e o dorso do pé, com aparente ausência de reperfusão do dorso do pé retrogradamente, decide-se levar o doente ao bloco operatório. Cirurgicamente constataram-se dois focos de contusão arterial (na artéria tibial anterior distal e artéria pediosa proximal), tendo-se procedido à resseção desses segmentos de contusão e realização de uma interposição entre a artéria tibial anterior distal e a artéria pediosa com veia grande safena contralateral invertida. Após 7 meses de seguimento, mantém revascularização funcionante com pulso pedioso palpável.

CONCLUSÃO: A incidência dos traumatismos vasculares tem vindo a aumentar nos últimos anos. A lesão arterial por contusão encontra-se associada a traumatismos de elevada energia, com sinais de isquemia e frequentemente acompanhada por fraturas ósseas e lesões dos tecidos moles circundantes. Estas lesões estão associadas a taxas de amputação maiores do que os traumatismos penetrantes. O tratamento pode ser conservador, em casos sem hemorragia ativa ou isquemia distal, após avaliação seriada por tomografia computorizada contrastada ou ecodoppler. No entanto, na maioria dos casos o tratamento é cirúrgico, através do restabelecimento de um fluxo direto para o membro afetado.



P26 Central vein transposition as a viable alternative for cephalic arc stenosis - a case report

José Vilas-Boas, Filipa Jácome, Leandro Nóbrega, Diogo Monteiro, Lara Dias, Tiago Moura, Tiago Pereira, Margaret Soares, Rita Piedade, Joana Ferreira, Luís Coentrão

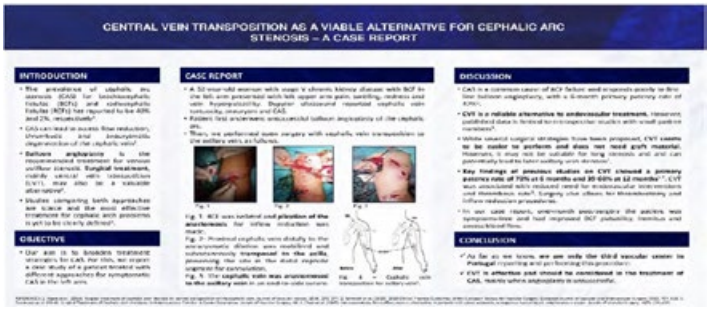
ULS São João

INTRODUCTION: Cephalic arc stenosis (CAS) complicates 40% of brachiocephalic fistulas (BCFs) and can lead to access flow reduction, thrombosis and aneurysmatic degeneration of the cephalic vein.
While balloon angioplasty is the primary treatment for CAS, surgical strategies, mainly central vein transposition (CVT), may also be valuable alternatives.
The most effective treatment for cephalic arch problems is yet to be clearly defined.

CASE REPORT: We present a case-study of a 52-year-old woman with stage V chronic kidney disease with symptomatic venous hypertension and hyperpulsatility. Doppler ultrasound reported cephalic vein tortuosity, aneurysm and CAS.
Patient first underwent unsuccessful balloon angioplasty of the cephalic arc with a 12mm balloon.
Since there was a high access blood flow (Qa 2400 mL/min); a significant risk of vein rupture with the use of larger balloons; and a high likelihood of entrapment of the vein due to extrinsic compression, we decided to perform open surgery with cephalic vein transposition to the axillary vein combined with plication of the BCF.
One-month post-surgery the patient was symptoms-free and had improved BCF pulsatility, fremitus and access blood flow (Qa 1000 mL/min).

DISCUSSION: CAS is a common cause of BCF failure and responds poorly to first-line balloon angioplasty, with a 6-month primary patency rate of 42%.
CVT appears promising, offering a valuable alternative for CAS and can be used as a complement to endovascular therapy.
Key findings of previous studies on CVT showed a primary patency rate of 70% at 6 months and 39-60% at 12 months. CVT was also associated with reduced need for endovascular interventions and thrombosis rate. Surgery also allows for thrombectomy and inflow reduction procedures.
When comparing surgical strategies, CVT seems to be easier to perform and does not need graft material. However, it may not be suitable for long stenosis and can potentially lead to later axillary vein stenosis.

CONCLUSION: As far as we know, we are only the third vascular center in Portugal reporting and performing this procedure.
Our experience suggests that CVT should be considered, particularly in cases of failed angioplasty, expanding treatment options for CAS.



P27 Hemodynamic stroke with tandom lesions: which and when to treat?

Marta Machado[1], Diogo Silveira[1], Joao Peixoto[2], Luis Fernandes[2], Roberto Boal[1], Francisco Basilio[1], Patricia Carvalho[1], Beatriz Guimaraes[1], Pedro Brandão[1], Alexandra Canedo[1]

[1] ULSGE, [2] USLGE

INTRODUCTION: One region of the circulation that has received limited attention as an etiology of stroke is the aortic arch.Proximal disease such as innominate artery stenosis will not be visualized directly on carotid DUS and the presence of disease in these areas can only be inferred from damping of the wave-form in common carotid artery, affecting velocity measurements here.

CLINICAL CASE: FMan, 74 years-old, smoker, with hypertension, dyslipidemia and recent history of coronary surgery went to the emergency department with complains of self-limited episode of involuntary movements of the left upper limb lasting few minutes.There was also reference to diarrhea and vomiting
On objective examination the patient was vigil, oriented in time and space.There was a very significant tension differential (~90 mmHg left upper limb and ~50 mmHg right). No field deficit in the confrontation, no ophthalmoparesis or nystagmus.Minor left central facial paresis minor ans left brachial paresis G4+.No sensory asymmetryNIHSS 2-3
Doppler ultrasound: flows flattened right carotid axis,vertebral with inverted flow. Transcraneal doppler was not possible to carry out due to bad window
CTA:No recent expansive or vascular lesions. Multiple non-recent lacunar ischemic lesions in the right corona radiata. Calcified atherosclerotic plaque in the bulb of the left internal carotid artery, with stenosis50-70%. Atheromatous calcifications in the carotid siphons, with stenoses apparently less than50%(Figure 1)
Patient was admitted to stroke unit. During hospitalization had AKI in probable hypovolemic context and pyelonephritis under ceftriaxone
After multidisciplinary discussion between vascular surgery and neurology it was decided to first treat TBC and reevaluate carotid stenosis after in angiography. Was placed

an ADVANTA 10*38 stent at arterial braquiochepalic trunk. ICA stenosis in angiography was <50% and so was decided not to treat (Figure 2).
He was wischarged 2 days after procedure with left sensory hemiextinction and left brachial paresis G4. NHISS 1
CT control after 1 month (Figure 3).

CONCLUSION: Adding ipsilateral carotid endarterectomy (CEA) to proximal endovascular (IPE) intervention for the treatment of tandem bifurcation and supra-aortic trunk disease is controversial. All methods for estimating percentage diameter stenosis are based in arteriography. In this case as it was observed that the stenosis in angiography was <50% was decided not to treat this lesion.

Figure 1- CTA showing stenosis of innominate artery and right carotid bifurcation

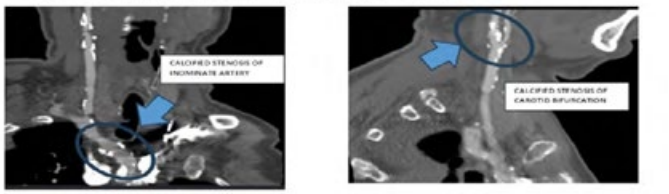
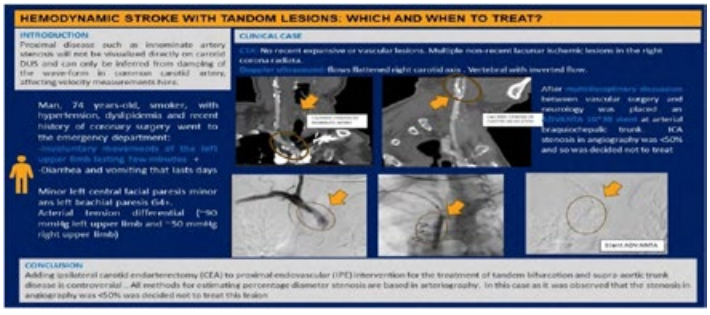


Figure 2- Diagnostic angiography, angioplasty and stenting of innominate artery lesion



P28 Giant popliteal pseudoaneurysm: a case report

Andreia Ministro, Augusto Ministro, Mickael Henriques, Luís Mendes Pedro

ULS Santa Maria

CASE REPORT: A 75-year-old male, known to have an asymptomatic 9cm parrenal abdominal aortic aneurysm, severe chronic obstructive pulmonary disease requiring long-term oxygen therapy, chronic kidney disease and hypertension, was referred due to a 12cm left popliteal pseudoaneurysm impairing mobility. We elected an endovascular approach to address the popliteal pseudoaneurysm.
Initially, we exposed the proximal left superficial femoral artery. However, attempts to catheterize the artery distally to the aneurysm were unsuccessful. Subsequently, by gaining retrograde access via the anterior tibial artery and employing a loop to snare the wire, we successfully placed a 0.014' wire in a through-and-through manner. We proceeded to deploy stent grafts (8x100mm and two 10x100mm Viabahn®, Gore®) to exclude the aneurysm, followed by balloon dilation of the sealing zones.
Additionally, we performed hematoma drainage through a medial incision, and came across with the endoprothesis exposed.
Later, we treated the pararenal aortic aneurysm with a branched endoprosthesis (Zenith® t-Branch® Thoracoabdominal Endovascular graft, Cook®). Given the prior occlusion of the coeliac trunk, we utilized a balloon-expandable stent (9x57mm BeGraft+®, Bentley®) to bridge the branch and subsequently occluded it with a plug (9-AVP2-012 Amplatzer Vascular Plug®, Abbott®) to prevent endoleak. The postoperative period was complicated by spinal cord ischemia. Partial recovery of deficits was achieved through cerebrospinal fluid drainage and rehabilitation.

DISCUSSION: Aortic aneurysms are the most prevalent, followed by iliac and popliteal, often coexisting.
As for COPD, smoking stands out as the most significant risk factor.
The primary threat from aortic aneurysms is rupture. In contrast, nonaortic aneurysms are prone to embolization, thrombosis or compression of nearby structures.
Both aneurysms in this patient were large, increasing the risk of complications. The selection of treatment approach was tailored to the individual patient's anatomy, comorbidities, and overall risk profile. While endovascular aortic repair is generally considered minimally invasive, the extensive coverage required predisposed the patient to the risk of spinal cord ischemia.

CONCLUSION: This case underscores the complexities involved in the management of large aneurysms, especially in patients with multiple comorbidities, requiring individualized treatment strategies, and monitoring for postoperative complications.

P29 Transient facial palsy- a rare complication of carotid endarterectomy

Miguel Queirós, Henrique Rocha, João Castro, Andreia Pinelo, Henrique Almeida, João Marcelo, Samuel Cardoso, Duarte Rego, Rui Machado

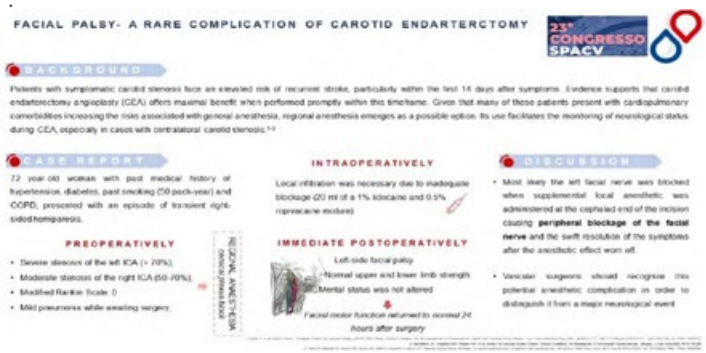
ULS de Santo Antonio

BACKGROUND: Patients with symptomatic carotid stenosis face an elevated risk of recurrent stroke, particularly within the first 14 days after symptoms. Evidence supports the notion that carotid endarterectomy angioplasty (CEA) offers maximal benefit when performed promptly within this timeframe. Given that many of these patients present with cardiopulmonary comorbidities increasing the risks associated with general anesthesia, regional anesthesia emerges as a possible option. Its use facilitates the monitoring of neurological status during CEA, especially crucial in cases with contralateral carotid stenosis.[1-3]

PRESENTATION: A 72-year-old woman with a medical history of hypertension, COPD, diabetes, and a past smoking history (50 pack-years) experienced an episode of transient right-sided hemiparesis. Diagnostic evaluation revealed a normal cerebral CT scan but identified severe left internal carotid artery stenosis (>70%) and moderate right internal carotid artery stenosis (50-70%) via doppler ultrasound. The patient exhibited a modified Rankin Scale (mRS) score of 0.
While awaiting surgery the patient presented worsening pulmonary function due to a mild pneumonia. Given the current medical condition a regional anaesthesia method was chosen in order to perform the surgery in the 14 day post symptom time gap.
Surgery was uneventful apart from the time of skin incision which was necessary to do local infiltration due to inadequate blockage. A total of 20 ml of a 1% lidocaine and 0.5% ropivacaine mixture was administrated in the skin and subcutaneous tissue. Soon after surgery the patient presented with a complete left-side facial palsy, however upper and lower limb strength were normal and mental status was not altered. Facial muscle function returned to normal 24 hours after surgery.

CONCLUSION: Facial palsy following carotid endarterectomy performed under regional anesthesia may stem from supplemental local anesthetic injection when cervical blockade is insufficient. Vascular surgeons should recognize this potential anesthetic complication in order to distinguish it from a major neurological event.

.



P30 A comprehensive and interdisciplinary approach to managing acute visceral ischaemia: insights from three recent clinical cases

Samuel Cardoso, Miguel Queirós, Henrique Almeida, Andreia Pinelo, Inês Antunes, Daniel Mendes, Sérgio Teixeira, Pedro Sá Pinto, Carlos Pereira, Rui Machado

Unidade Local de Saúde de Santo António

INTRODUCTION: Acute visceral ischaemia is a surgical emergency that is associated with an elevated mortality rate. The arterial occlusive mesenteric ischaemia is the subtype more common whereby necessary a high clinical suspicion to make the early diagnosis. The accessibility of CT angiography provides, currently, an important diagnostic tool. Treatment strategies encompass arterial revascularization, often necessitating the collaboration of general surgery to intestinal resection. We present three recent cases of acute visceral ischaemia with the aim to illustrate the importance of continuous and multidisciplinary approach.

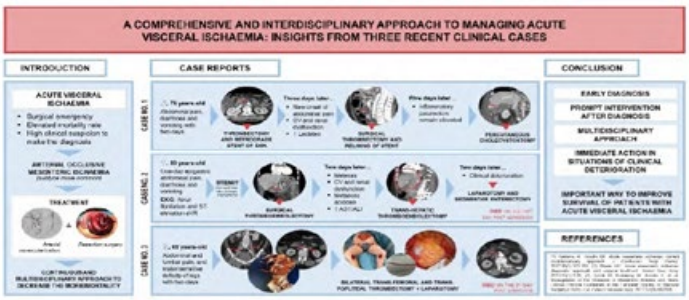
CASE REPORTS:

Case 1: A 76-years male with two days of abdominal pain, diarrhoea and vomiting was diagnosticated with acute mesenteric ischaemia and underwent surgical thrombectomy and retrograde stent of the superior mesenteric artery. To two days after, due to elevation of intraabdominal pressure, the patient was submitted to a new surgical thrombectomy and relining the stent. The patient was submitted to percutaneous cholecystostomy, in the eighth post-operative day, after diagnosis of acute perforated cholecystitis.

Case2: An 85-years female with a one-day history of progressive epigastric abdominal pain, diarrhoea and vomiting received the diagnosis of acute mesenteric ischaemia and was submitted to surgical thromboembolectomy. After a hemodynamic deterioration, in the second post-operative day, the trans-hepatic thrombectomy was performed after diagnosis of hepatic arterial occlusion.

Case 3: A 69-years female with two days evolution of embolic aortoiliac bilateral acute occlusion and acute mesenteric artery occlusion was submitted to the bilateral aortoiliac thrombectomy. At exploratory laparotomy, the pulse superior mesenteric artery was palpated, and the signs of bowel ischaemia were absent, reason why not performed mesenteric thrombectomy.

CONCLUSION: These clinical cases confirmed the elevated mortality rate of this clinical condition and demonstrate the critical role of early diagnosis, prompt intervention, multidisciplinary approach and immediate and continuous surveillance. The effort to implement early intervention is fundamental to changing the prognosis.



P31 Unusual presentation of takayasu arteritis

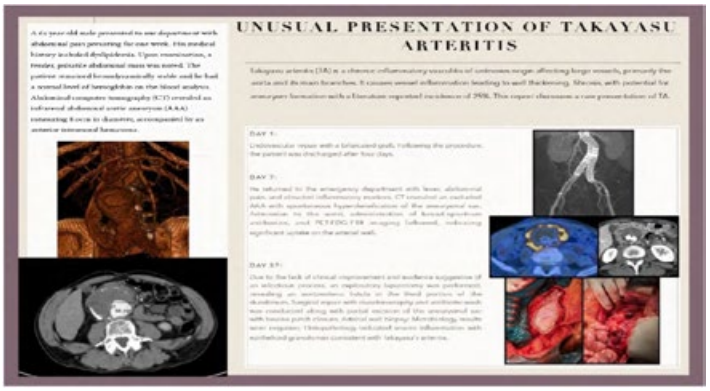
Celso Nunes, Mário Moreira, Eduardo Silva, Miguel Silva, Leonor Baldaia, Luís Orelhas, Maria Carmona

Centro Hospitalar e Universitário de Coimbra

INTRODUCTION: Takayasu arteritis (TA) is a chronic inflammatory vasculitis of unknown origin affecting large vessels, primarily the aorta and its main branches. It causes vessel inflammation leading to wall thickening, fibrosis, with potential for aneurysm formation with a literature reported incidence of 25%. This report discusses a rare presentation of TA.

Case Report A 62-year-old male presented to our department with abdominal pain persisting for one week. His medical history included dyslipidemia. Upon examination, a tender, pulsatile abdominal mass was noted. The patient remained hemodynamically stable and he had a normal and stable level of hemoglobin on the blood analysis. Abdominal computer tomography (CT) revealed an infrarenal abdominal aortic aneurysm (AAA) measuring 80mm in diameter. Given the anatomical suitability, endovascular repair was chosen with exclusion of the aneurysm with an endobifurcated graft. The patient was discharged four days after the procedure. However, seven days later, he returned to the emergency department with fever, abdominal pain, and elevated inflammatory markers. CT revealed an excluded AAA with spontaneous hyperdensification of the aneurysmal sac. Admission to the ward, administration of broad-spectrum antibiotics, and PET-FDG-F18 imaging followed, indicating significant uptake on the arterial wall. Due to the lack of clinical improvement and evidence suggestive of an infectious process, an exploratory laparotomy was performed, revealing an aortoenteric fistula in the third portion of the duodenum. Surgical repair with duodenorraphy and antibiotic wash was conducted along with partial excision of the aneurysmal sac, bovine patch closure and arterial wall biopsy for further analysis. Microbiology results were negative, but histopathology indicated severe inflammation with epithelioid granulomas consistent with Takayasu's arteritis. The patient's postoperative recovery was uneventful, and he was discharged 15 days after surgery.

Discussion: TA commonly manifests as occlusive rather than aneurysmal disease. The primary treatment approach for TA is medical management. However, aneurysm repair is warranted in cases with similar indications as seen in patients with degenerative aneurysms. Conventional surgical intervention involves challenging dissection due to fibrosis around the juxtarenal aorta. Nonetheless, outcomes from both endovascular and conventional surgical procedures have been favorable.



P32 Fístula aorto-entérica: kissing stents à vista!

Manuel Silva, Roberto Cunha, Isabel Vieira, Pedro Maximiano, Mafalda Correia, Nelson Oliveira, Isabel Cássio, Emanuel Dias

Hospital do Divino Espírito Santo

INTRODUÇÃO: As fístulas aorto-entéricas (FAE) são uma comunicação entre a aorta e o trato gastrointestinal (GI). Podem ser primárias ou secundárias consoante a sua causa e estão associadas a elevadas taxas de morbilidade e mortalidade. O diagnóstico é difícil, sendo necessária uma elevada suspeição clínica, habitualmente associada a um episódio de hemorragia GI.

CASO CLÍNICO: Doente do sexo masculino, 60 anos, antecedentes pessoais de tabagismo, etilismo e dislipidemia. Antecedentes vasculares de stenting da AIC e AIE esquerda, um ano depois kissing stent da bifurcação aórtica e angioplastia do eixo ilíaco e femoro-poplíteo esquerdos. Posteriormente foi submetido a interposição aorto-bifemoral por oclusão da revascularização prévia. Cerca de 3 anos após, apresenta-se em isquemia aguda IIb de Rutherford do membro inferior esquerdo, associado a febre e leucocitose. Realiza angioTC abdomino-pélvico, com oclusão da aorta abdominal com extensão a todas as próteses/stents iliofemorais bilateralmente, observando-se uma coleção hipercaptante à volta do stent e múltiplas bolhas gasosas intra-luminais e peri-stent. No bloco operatório constatou-se exposição dos stents aorto ilíacos dos eixos arteriais nativos com uma perfuração da 3ª/4ª porção do duodeno. O tratamento implicou uma abordagem multidisciplinar entre Cirurgia Vascular e Cirurgia Geral, tendo sido removidos os stents aorto-ilíacos, realizado um bypass axilo-femoral direito e removida a prótese bifurcada

de Dacron infetada, com laqueação da aorta abdominal infrarrenal. Optou-se pela não revascularização do membro inferior esquerdo nesta fase, devido à instabilidade do doente, tendo sido necessário proceder à amputação transfemoral deste membro no período pós-operatório. Teve alta ao 25º dia, sem intercorrências. Posteriormente, o doente manteve tabagismo ativo, condicionando uma oclusão da revascularização aos 4 meses, submetida a trombectomia do bypass e nova oclusão do mesmo aos 5 meses, que culminou na amputação transfemoral direita.

CONCLUSÃO: As FAE estão associadas a elevadas taxas de morbilidade e mortalidade, sendo quase sempre fatais se deixadas sem tratamento. O tratamento é sempre cirúrgico, sendo que no caso das FAE secundárias é necessária a remoção de todo o material sintético infetado. Este caso clínico é invulgar devido à raridade desta complicação após tratamento endovascular, nomeadamente com stenting ilíaco, e uma apresentação sem a hemorragia GI típica.

P33 An hybrid solution to an axillar stump blow out: case report

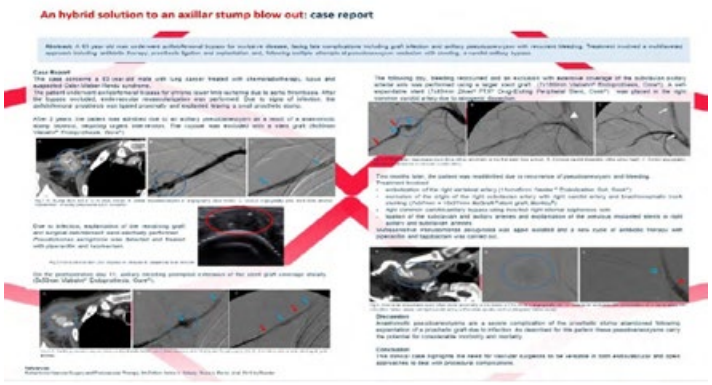
Andreia Ministro, Augusto Ministro, Luís Mendes Pedro

ULS Santa Maria

CASE REPORT: This case concerns a 63-year-old male with lung cancer treated with chemoradiotherapy, lupus and suspected Osler-Weber-Rendu syndrome.
The patient underwent axillobifemoral bypass for occlusive disease. After the bypass occluded, endovascular revascularization was performed. Due to signs of infection, the axillobifemoral prosthesis was ligated proximally and explanted leaving a small prosthetic stump.
After 2 years, the patient was admitted due to an axillary pseudoaneurysm as a result of a anastomotic stump blowout, requiring urgent intervention. The rupture was excluded with a stent graft (6x50mm Viabahn® Endoprothesis, Gore®).
Due to infection, explantation of the remaining graft and surgical debridement were electively performed. Pseudomonas aeruginosa was detected and treated with piperacillin and tazobactam. On the postoperative day 11, axillary bleeding prompted extension of the stent graft coverage distally (5x50mm Viabahn® Endoprothesis, Gore®). The following day, bleeding reoccurred and exclusion with coverage of the subclavian-axillary arterial axis was performed using a larger stent graft (7x100mm Viabahn® Endoprothesis, Gore®). A self-expandable stent (7x40mm Zilver® PTX® Drug-Eluting Peripheral Stent, Cook®) was placed in the right common carotid artery due to iatrogenic dissection.
Two months later, the patient was readdmited due to recurrence of pseudoaneurysm and bleeding.
Treatment involved
- embolization of the right vertebral artery (14cmx6mm Nester® Embolization Coil, Cook®)
- exclusion of the origin of the right subclavian artery with right carotid artery and brachiocephalic trunk stenting (7x57mm + 10x27mm BeGraft® stent graft, Bentley®)
- right common carotid-axillary bypass using inverted right internal saphenous vein
- ligation of the subclavian and axillary arteries and explantation of the previous implanted stents in right axillary and subclavian arteries.
Multissensitive Pseudomonas aeruginosa was again isolated and a new cycle of antibiotic therapy was carried out.

DISCUSSION: Anastomotic pseudoaneurysms are a severe complication of the prosthetic stump abandoned following explantation of a prosthetic graft due to infection. As described for this patient these pseudoaneurysms carry the potential for considerable morbidity and mortality.

CONCLUSION: This clinical case highlights the need for vascular surgeons to be versatile in both endovascular and open approaches to deal with procedural complications.



P34 When an endoleak is a huge problem - case report

Roger Rodrigues

Hospital Braga

INTRODUCTION: Isolated common iliac artery (CIA) aneurysms are relatively rare, occurring in only 0.03% of the population and comprising less than 2% of clinically noted aneurysmal disease. Typically, a CIA measures 18 mm in men and 15 mm in women.

In patients undergoing endovascular aortic repair (EVAR), type 1 and type 3 endoleaks have been observed, often necessitating re-intervention. Type 2 endoleaks are frequent and likely underreported.

CASE REPORT: The authors describe the case of a 69-year-old patient who went to the emergency department of a peripheral hospital due to swelling and pain in his left flank. He was initially diagnosed with an incarcerated hernia.
After an ultrasound, it was found that he had was a large aneurysm.
Transference to a tertiary referral hospital was made and a computed tomography angiography (CTA) revealed a left common iliac artery aneurysm of 96 mm with no signs of rupture or other complication.
An EVAR with an Endurant II endoprosthesis was performed and the internal iliac artery (IIA) was not embolized. In the control angiography, no endoleak was observed.
A control ultrasound was performed annually for the following 3 years without endoleak or aneurysm growth.
In the fourth year after surgery, the patient was asymptomatic but the swelling had increased. A new CTA was requested, which revealed a growth of the aneurysmal sac, measuring 120 mm and an endoleak originating from the IIA.
A midline laparotomy was performed in order to treat this large aneurysm. After the isolation, opening of the aneurysm sac and removal of the thrombus, the authors identified the flow coming from the IIA and the artery was ligated.

CONCLUSION: In the case presented, the growth of the aneurysm resulted from the decision not to embolize the internal iliac artery when the EVAR was first performed. This was not done because of the size of the aneurysm, which made an urgent procedure technically more complex.
Embolization of the IIA in this case would be technically very difficult, so the open approach was our choice, allowing the definitive resolution of the endoleak and treating the compressive symptoms.
This case was very interesting not only because of the volume of the aneurysm but also because of the possible complications that could occur during treatment.

P35 Síndrome do desfiladeiro torácico pós-traumático: caso clínico de hiperosteose do terço médio da clavícula

Carlos Lobão[1], Fábio Taborda[1], Miguel Maia[2], Gabriela Teixeira[2], Daniel Brás Lopes[1], Clyde Viamonte[1]

[1] Ortopedia e Traumatologia, Unidade Local Saúde Tâmega e Sousa,
[2] Angiologia e Cirurgia Vascular, Unidade Local Saúde Tâmega e Sousa

INTRODUÇÃO: O síndrome do desfiladeiro torácico é uma entidade patológica decorrente da compressão do feixe neurovascular localizado acima da primeira costela e abaixo da clavícula. Pode ser dividida em três tipos: arterial, venoso ou neurológico, de acordo com a estrutura afetada, ou excecionalmente, uma combinação destas. De todas as etiologias, a pseudartrose e hiperosteose pós-traumática a nível clavicular é uma causa rara.

CASO CLÍNICO: Homem, 38 anos, saxofonista, com história de fratura do terço médio da clavícula há quatro anos. A fratura foi tratada cirurgicamente e o material de osteossíntese removido após constatação de consolidação óssea. Passados 2 anos, o doente recorre à consulta com clínica de edema, diminuição de força e parestesias do membro superior direito. Ao exame objetivo apresentava teste de Adson positivo, com diminuição do pulso radial aquando da abdução do braço e edema. Realizou angioTC e angioRMN (sem manobras provocatórias) onde se constatava hiperosteose óssea no local da fratura em contacto com a artéria e veia subclávia. Realizou ecodoppler que demonstrou um aumento da resistência do fluxo venoso e uma diminuição do espetro arterial com pulso monofásico na artéria axilar, aquando da realização de manobras evocativas provocatórias de compressão. Foi proposto para tratamento cirúrgico com claviculectomia segmentar do terço médio, tendo sido removido um calo ósseo com cerca de seis centímetros de diâmetro, descomprimindo as estruturas atingidas. O doente será submetido num segundo tempo a uma reconstrução clavicular. Encontra-se em processo de reabilitação por fisiatria de forma a manter a trofismo muscular do membro superior direito e prevenir rigidez do mesmo.

DISCUSSÃO: Apesar de raro, o síndrome do desfiladeiro torácico pós-traumático, provocado por um crescimento de calo ósseo com compressão do eixo neurovascular, leva a limitações importantes na função do membro superior, tendo grande impacto nas atividades de vida diária, como no presente caso em que o doente era saxofonista. Por si só, a formação de pseudartrose a nível clavicular incorre no risco inerente de trombose da veia subclávia (Síndrome de Paget-Schroetter), sendo a descompressão do desfiladeiro torácico recomendada.

CONCLUSÃO: O presente caso de síndrome de desfiladeiro torácico demonstra o senso clínico que se deve ter perante a clínica com envolvimento quer vascular e/ou neurológico do membro superior num doente que já tenha sofrido trauma prévio ipsilateral.

P36 TASC D occlusive iliac disease repaired with aspiration thrombectomy and stenting

Margaret Soares, Filipa Jacóme, Leandro Nóbrega, Diogo Monteiro, Lara Dias, Tiago Moura, Tiago Pereira, Rita Piedade, José Miguel, Marina Dias Neto, José Fernando Ramos, Armando Mansilha

ULS São João

INTRODUCTION: The endovascular treatment of occlusive iliac disease has been extensively developed in recent years to improve patients' quality of life and to achieve limb salvage using minimally invasive solutions.

OBJECTIVES: This abstract aims to present a clinical case of an endovascular treatment for TASC D.

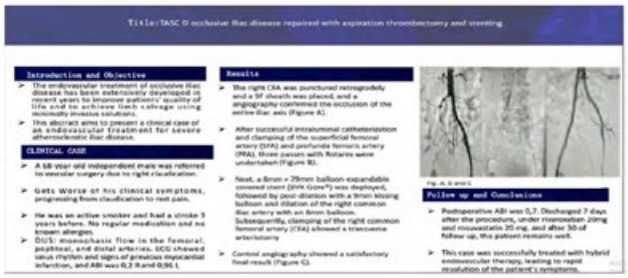
CLINICAL PRESENTATION: A 68-year-old independent male was referred to vascular surgery due to right claudication. He recently experienced worsening of his clinical symptoms, progressing from claudication to rest pain, and developing an ulcer on the distal end of the right hallux. He was an active smoker and had a stroke 3 years before. No regular medication and no known allergies.

RESULTS: DUS: monophasic flow in the femoral, popliteal, and distal arteries. ECG showed sinus rhythm. ABI was 0.28 on the right and 0.96 on the left

Treatment: The right common femoral artery (CFA) was punctured retrogradely and a 9F sheath was placed. A diagnostic angiography confirmed the occlusion of the entire iliac axis Fig A. After successful intraluminal catheterization and clamping of the superficial femoral artery (SFA) and profunda femoris artery (PFA), three passes with Rotarex were undertaken Fig B. Next, a 8mm × 79mm balloon-expandable covered stent (BVX Gore®) was deployed, followed by post-dilation with a 9mm kissing balloon and dilation of the right common iliac artery with an 8mm balloon. Subsequently, clamping of the right common femoral artery (CFA) allowed a transverse arteriotomy That was used to thoroughly wash the CFA with heparinized saline and to visualize the return flow in the SFA and PFA. Control angiography showed a satisfactory final result Fig C.

Follow up: Postoperative ABI was 0,7. The patient was discharged 7 days after the procedure, under rivaroxaban 20mg and rosuvastatin 20 mg. After 30 of follow up, the patient remains well.

CONCLUSION: This case was successfully treated with hybrid endovascular therapy, leading to rapid resolution of the patient's symptoms.



P37 Persistência da artéria isquiática: a propósito de um caso clínico

Ana Marisa Marques, Joana Rodrigues, Carolina Lobo Mendes, André Marinho, António Simões

Unidade Local de Saúde Viseu Dão Lafões

INTRODUÇÃO: A artéria ciática persistente (PSA) é uma anomalia vascular rara, tendo uma incidência extremamente baixa, que ronda os 0,04% - 0,06%, sendo bilateral em 30% dos casos. Esta condição confere maior propensão para eventos de trombose/ isquémia, embolização distal, degenerescência aneurismática e rutura. No entanto, a sintomatologia pode ser bastante variável, desde quadros assintomáticos até casos de dor, claudicação, isquémia crítica ou isquémia aguda dos membros inferiores. Ao exame físico, deve-se suspeitar de

PSA perante a ausência de pulso femoral palpável, associado à presença de pulsos poplíteos e/ou pediosos palpáveis.

CASO CLÍNICO: Apresenta-se um caso de PSA bilateral, numa doente do sexo feminino de 71 anos, com uma úlcera digital com várias semanas de evolução no pé direito. O diagnóstico foi realizado através de arteriografia dos membros inferiores e angioTAC que revelam a lesão oclusiva segmentar direita. Tendo em conta os achados, a doente foi submetida a implantação de endoprótese revestida por via axilar esquerda com resolução da estenose da artéria ciática e cicatrização da lesão trófica.

DISCUSSÃO: A maioria dos doentes são sintomáticos (70%), e as manifestações clínicas estão relacionadas geralmente ao quadro de degeneração aneurismática, que ocorre em 25-58% dos doentes. Entre as manifestações clínicas mais frequentes, temos a isquemia aguda, a isquemia crónica, massa glútea pulsátil e sinais de compressão do nervo ciático. Para diagnóstico e avaliação de complicações, podem ser utilizadas angiografia ultrassonografia, tomografia computadorizada e ressonância magnética. O tratamento da PSA é controverso e não há consenso estabelecido na literatura. Dependerá da apresentação e urgência do quadro clínico. Os doentes assintomáticos devem ser monitorizados com exame físico e exames de imagem, reservando a intervenção cirúrgica para os casos sintomáticos e/ou com complicações associadas.

CONCLUSÃO: Portanto, a PSA é uma anomalia rara, que deve fazer parte do diagnóstico diferencial das doenças vasculares dos membros inferiores. O tratamento e o seguimento devem ser individualizados para cada paciente.

P38 Persistência da artéria isquiática: a propósito de um caso clínico

Ana Marisa Marques, Joana Rodrigues, Carolina Lobo Mendes, André Marinho, António Simões

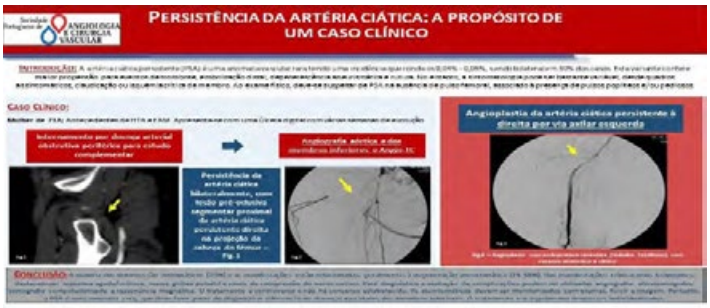
Unidade Local de Saúde Viseu Dão Lafões

INTRODUÇÃO: A artéria ciática persistente (PSA) é uma anomalia vascular rara, tendo uma incidência extremamente baixa, que ronda os 0,04% - 0,06%, sendo bilateral em 30% dos casos. Esta condição confere maior propensão para eventos de trombose/ isquémia, embolização distal, degenerescência aneurismática e rutura. No entanto, a sintomatologia pode ser bastante variável, desde quadros assintomáticos até casos de dor, claudicação, isquémia crítica ou isquémia aguda dos membros inferiores. Ao exame físico, deve-se suspeitar de PSA perante a ausência de pulso femoral palpável, associado à presença de pulsos poplíteos e/ou pediosos palpáveis.

CASO CLÍNICO: Apresenta-se um caso de PSA bilateral, numa doente do sexo feminino de 71 anos, com uma úlcera digital com várias semanas de evolução no pé direito. O diagnóstico foi realizado através de arteriografia dos membros inferiores e angioTAC que revelam a lesão oclusiva segmentar direita. Tendo em conta os achados, a doente foi submetida a implantação de endoprótese revestida por via axilar esquerda com resolução da estenose da artéria ciática e cicatrização da lesão trófica.

DISCUSSÃO: A maioria dos doentes são sintomáticos (70%), e as manifestações clínicas estão relacionadas geralmente ao quadro de degeneração aneurismática, que ocorre em 25-58% dos doentes. Entre as manifestações clínicas mais frequentes, temos a isquemia aguda, a isquemia crónica, massa glútea pulsátil e sinais de compressão do nervo ciático. Para diagnóstico e avaliação de complicações, podem ser utilizadas angiografia ultrassonografia, tomografia computadorizada e ressonância magnética. O tratamento da PSA é controverso e não há consenso estabelecido na literatura. Dependerá da apresentação e urgência do quadro clínico. Os doentes assintomáticos devem ser monitorizados com exame físico e exames de imagem, reservando a intervenção cirúrgica para os casos sintomáticos e/ou com complicações associadas.

CONCLUSÃO: Portanto, a PSA é uma anomalia rara, que deve fazer parte do diagnóstico diferencial das doenças vasculares dos membros inferiores. O tratamento e o seguimento devem ser individualizados para cada paciente.



P39 Hybrid reconstruction (parallel graft and carotid subclavian bypass) of aortic arch in high risk patients

Marta Machado, Daniel Brandão, Joao Peixoto, Luís Fernandes, Roberto Boal, Francisco Basilio, Patricia Carvalho, Beatriz Carvalho, Pedro Brandão, Alexandra Canedo

ULSGE

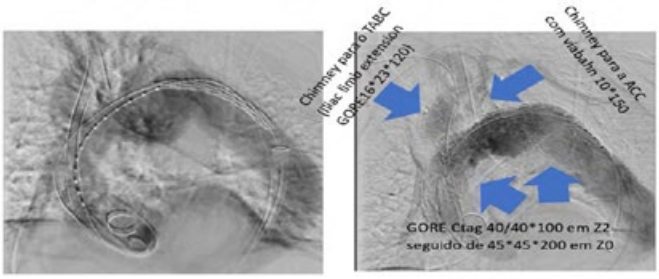
INTRODUCTION: Open total arch replacement is complex and requires cardiopulmonary bypass and circulatory arrest and, therefore many high-risk patients are deemed inoperable. Also, many elderly and frail patients due to low average life expectancy are excluded for consideration for branched and fenestrated thoracic endografts.

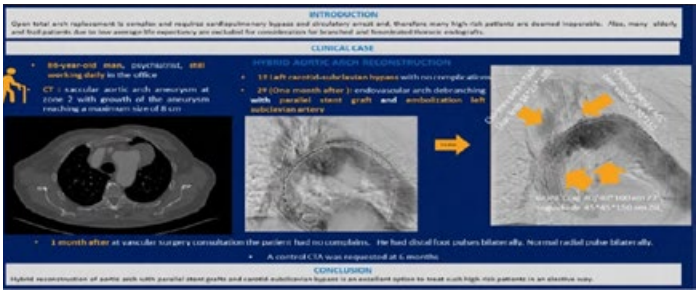
CLINICAL CASE: 86-year-old man, psychiatrist, still working daily in the office, was referred to vascular consultation due to a saccular aortic arch aneurysm at zone 2 detected on a chest CT performed 4 months before due to a respiratory infection. He denied previous history of chest trauma. He had already repeated the CT scan for respiratory control and was identified growth of the aneurysm reaching a maximum size of 8 cm (Figure 1)
Due to the excellent general condition and size of the aneurysm, with recent documented growth, the patient was proposed to intervention.
First the patient was submitted to a left carotid-subclavian bypass with no complications.
One month after the patient had no complains and bilateral radial pulse and was submitted to endovascular arch debranching with parallel stent graft deployment with two chimneys. Regarding accesses, were performed bilateral common femoral artery ultrasound-guided puncture (left 5F, right 24F) and surgical left brachial and right axillary accesses.
Were released the following components in Ishimaru zone 0 (Figure 2):
-Aortic arch stent grafts 45x45x200+40x40x100
-Brachiocephalic arterial trunk: iliac limb extesnion Gore 16x23x120
-Left common carotid artery: Gore Viabahn 10x150
-Placement of the Amplatzer AVP II 22 Plug in the left subclavian artery after viewing the left vertebral artery
Closure of the right femoral access with 3 proglides; left femoral access with manual compression. Closure of the left brachial access: arteriotomy with 2 sutures of 6/0 Prolene; Hemostasis; closure by plans Right axillary access: closure of the arteriotomy with 3 sutures of 6/0 Prolene; lHemostasis; closure by plans
1 month after at vascular surgery consultation the patient had no complains. He had distal foot pulses bilaterally. Normal radial pulse bilaterally. A CTA was requested at 6 months.

CONCLUSION
Hybrid reconstruction of aortic arch with parallel stent grafts and carotid-subclcavian bypass is an excellent option to treat such high-risk patients in an elective way.

Figure 1- Pre operative CTA

Figure 2- Angiography with parallel stent graft deployment with two chimneys.





P40 Kidney malrotation associated with pelvic congestion syndrome – case report

Lara R. Dias, Tiago Costa-Pereira, Rita Piedade, José Vilas-Boas, Tiago Moura, Leandro Nóbrega, Diogo Domingues-Monteiro, Filipa Jácome, Margareth Soares, Tiago Soares, Armando Mansilha

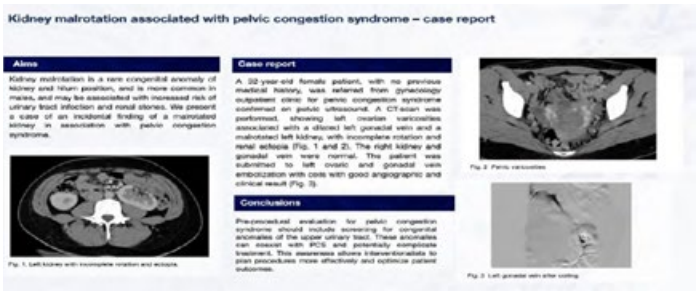
Unidade Local de Saúde São João

AIMS: Kidney malrotation is a rare congenital anomaly of kidney and hilum position, and is more common in males, and may be associated with increased risk of urinary tract infection and renal stones. We present a case of an incidental finding of a malrotated kidney in association with pelvic congestion syndrome (PCS).

CASE REPORT: A 32-year-old female patient, with no previous medical history, was referred from gynecology outpatient clinic for pelvic congestion syndrome confirmed on pelvic ultrasound. A CT-scan was performed, showing left ovarian varicosities associated with a dilated left gonadal vein and a malrotated left kidney, with incomplete rotation and renal ectopia. The right kidney and gonadal vein were normal. The patient was submitted to left ovaric and gonadal vein embolization with coils with good angiographic and clinical result.

CONCLUSION: Most RAA are incidental findings. History of hypertension is frequent and in most patients improve after aneurysm repair.
Several techniques are available for RAA repair; ex vivo renal aneurysm repair was performed based on the distal location of the aneurysm and the involvement of renal artery branches, because it enabled better access and longer reconstructive times. Despite the low mortality in elective surgical treatment of RAA, perioperative morbidity is significant.

CONCLUSION: Pre-procedural evaluation for pelvic congestion syndrome should include screening for congenital anomalies of the upper urinary tract. These anomalies can coexist with PCS and potentially complicate treatment. This awareness allows interventionalists to plan procedures more effectively and optimize patient outcomes.



P41 Aortic atherosclerosis - an unexpected cause

Luís Diogo Fernandes, Diogo Silveira, João Peixoto, Marta Machado, Francisco Basílio, Patrícia Carvalho, Beatriz Guimarães

ULSGE

INTRODUCTION: Isolated focal narrowing of the infrarenal aorta is a rare anomaly. Aortoiliac hypoplasia occurs in a distinct subgroup of patients, mostly younger women, with atherosclerosis often affecting the narrowed aorta and iliac arteries. There are only a few cases in literature describing isolated aortic pathology due to Rubella infection. Variations in their clinical presentation relate more to different anatomic locations and secondary pathologic events than the underlying etiologic differences.

CASE PRESENTATION: A 70-year-old woman presented with long term bilateral gluteal claudication with progressive worsening to very small distances despite best medical treatment. Her priors included a history of hypertension and dyslipidemia, but no smoking history. Physical examination revealed absent bilateral palpable pulses in the lower limbs. Ankle-brachial index was 0.38 bilaterally. Contrast CT imaging demonstrated a single 5cm segment of hypoplastic, angulated and calcified infrarenal aorta, with otherwise healthy arterial vasculature. Blood analysis was normal apart from an elevated IgG for Rubella. The patient denied any previously known Rubella infection and she was not vaccinated.

INTERVENTION AND OUTCOME: The patient underwent endovascular treatment using a single percutaneous common femoral approach. After intraluminal recanalization, two balloon-expandable stent grafts (Advanta V12 10x38mm) were deployed to address the subocclusive lesion, with a focus on adapting to the angulated anatomy of the aorta. The procedure was successful, and postoperative care was uneventful. The patient was discharged the following day without complications under single antiplatelet therapy and high intensity statin. Follow-up examinations demonstrated resolution of gluteal claudication and rest pain, with palpable pulses restored in the lower limbs. Repeat ABI measurements showed normal values.

CONCLUSION: Although unproven, we believe Rubella to be the most probable cause for the aortic disease on this case. Vascular surgeons should have high level of suspicion for rare causes of peripheral artery disease when facing uncommon cases.

P42 Antitrombin III deficiency: an uncommon indication for inferior venous cava filter

Marta Machado, Francisco Basílio, Ricardo Gouveia, Ricardo Castro Ferreira, Carolina Semião, Joao Peixoto, Luís Fernandes, Roberto Boal, Patricia Carvalho, Beatriz Guimaraes, Pedro Brandao, Alexandra Canedo

ULSGE

INTRODUCTION: OAlthough the most common indication for inferior venous cava filter placement is venous thromboembolism with contraindication to anticoagulation, failure of hypocoagulation is also another indication.

CLINICAL CASE: 65 years-old, man, smoker with previous history of COPD, hypertension, dyslipidemia, obesity, and ischemic heart disease was initially admitted in another hospital due to chest trauma with rib fractures. Length of stay was intercoursed with pulmonar tromboembolism (PTE) (Figure 1) and femoral popliteal deep venous thrombosis (DVT) and he was hypocoagulated with enoxaparin.
7 days after he mantained infraterapeutical anti-Xa factor and respiratory insufficiency. Repeated CTA showed imaging worsening with bilateral PTE. The hypocoagulation was charged to unfractionated heparin and the patient was transferred to our hospital where he was submitted to bilateral pulmonary thromboembolectomy due to severe hypertension and temporary filter placement in the inferior vena cava due to the persistence of infratherapeutic levels of hypocoagulation with recurrence of PTE (figure 1).
8 days later was detected an antitrombin III deficiency and the patient initiated argatroban and removed his filter without any complications (figure 2).

CONCLUSION: Although rare as a genetic disorder, acquired forms of antithrombin deficiency are seen with surprising frequency in critically ill patients. Because heparin relies on antitrombin to augment its physiologic function, patients with antithrombin deficiency often exhibit profound heparin resistance.
The removal of the temporary filter should be performed immediately after the therapeutic hypocoagulation levels are reached.

Figure 1 - Pre operative CTA showing pulmonar artery embolism

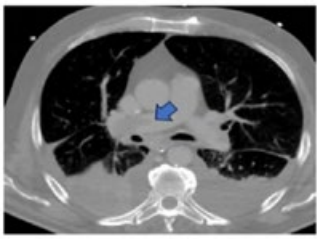


Figure 2 - Inferior vena cava temporary filter placement

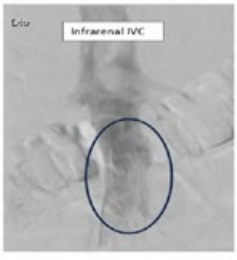
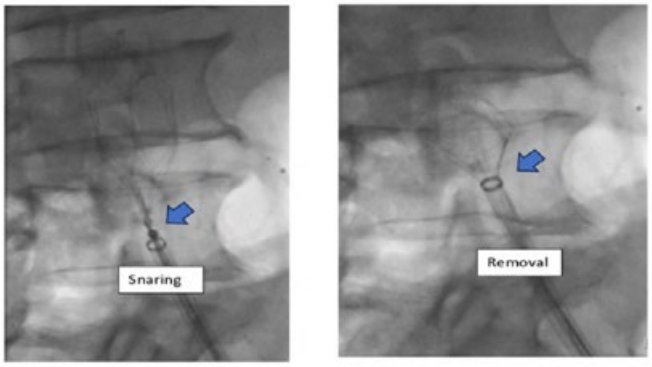
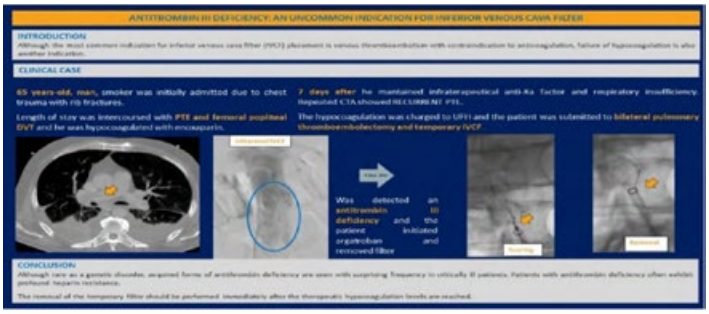


Figure 3 - Inferior vena cava temporary filter snaring and removal





P43 Iatrogenic popliteal artery injuries: the importance of ortopedics surgeons awareness

Marta Machado, João Peixoto, Luis Fernandes, Roberto Boal, Francisco Basílio, Patrícia Carvalho, Beatriz Guimarães, Carolina Semião, Diogo Silveira, Clara Nogueira, Paulo Barreto, Vítor Martins, Pedro Brandão, Alexandra Canedo

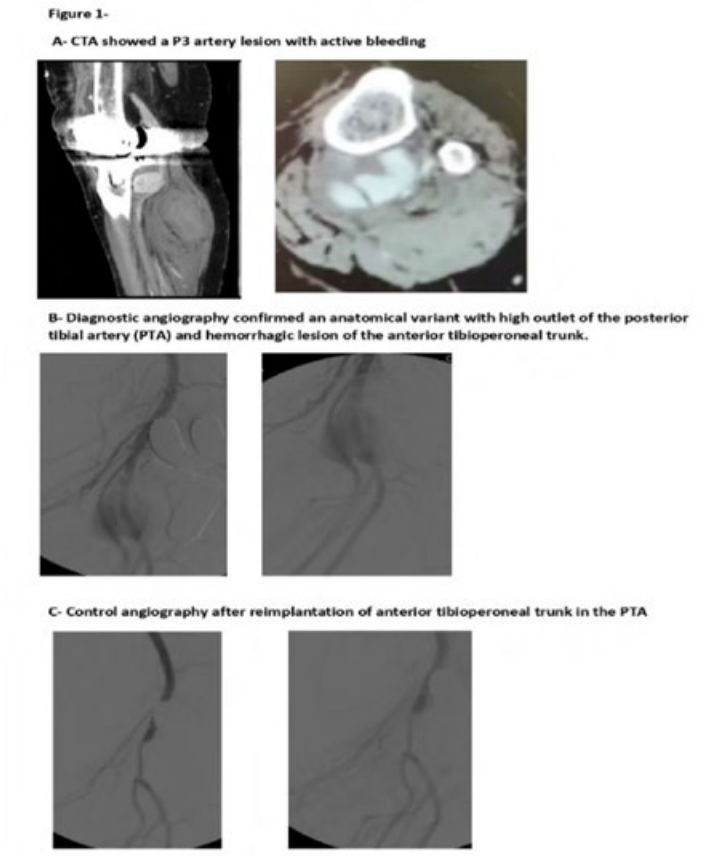
ULSGE

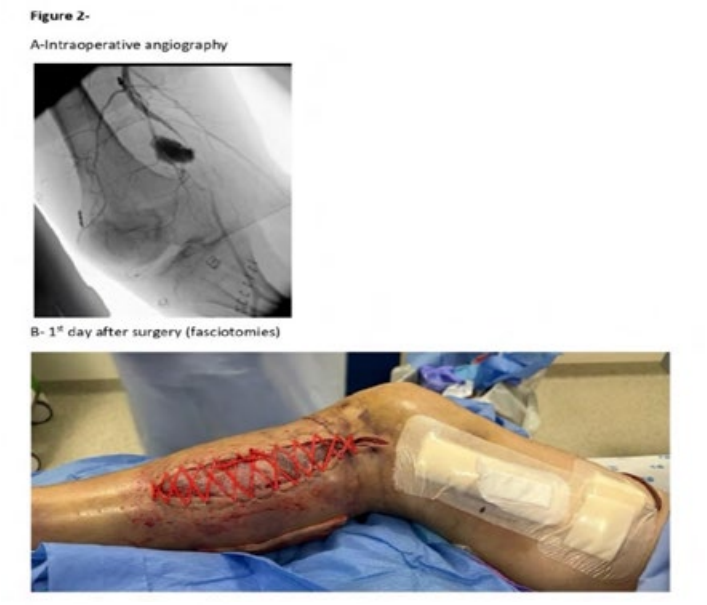
INTRODUCTION: Although intraoperative injury to the popliteal artery is a rare complication of orthopedic surgery, it can have serious consequences, including major amputation.

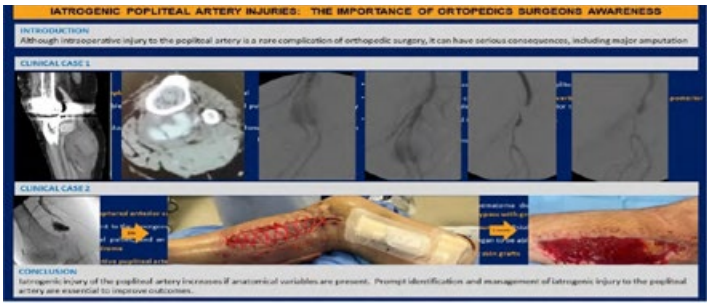
CLINICAL CASE 1: 57 years old, woman, submitted to a left total knee arthroplasty 1 day before in another hospital, was sent to our hospital due to active bleeding with a CTA showing a P3 artery lesion with active bleeding (Figure 1A).
At the emergency department, the patient was hemodynamically stable, had a leg bruise and a warm foot with distal pulses +, with no motor or sensory deficits. Hb 7.5g/dl.
She was transferred to the operating room and was performed medial supra and infraarticular popliteal approach. Diagnostic angiography confirmed an anatomical variant with high outlet of the posterior tibial artery (PTA) and bleeding lesion of the anterior tibioperoneal-trunk (TPT) (Figure 1B). Subsequently, was performed anteriorTPT ligation and reimplantation in the PTA (Figure 1C).
2 years later, the patient is asymptomatic with distal pulses.

CLINICAL CASE 2: Man, 18 years old, underwent surgery to repair ruptured anterior cruciate ligament
10 days later he went to the emergency room due to pain and paralysis in foot. The patient had a pale foot, no distal pulses, and an exuberant bruise on the leg. CT scan revealed active popliteal artery hemorrhage(P2).
Therefore, in the case of right lower limb compartment syndrome with active P2 hemorrhage, fasciotomies were performed + hematoma drainage under balloon control + P1 e P3 ligation + P1-P3 bypass with great saphenous vein (Figure 2)
He remained at the end of the surgery with distal biphasic flows. 1 week later he began to be able to mobilize his foot and is currently awaiting skin grafts (Figure 3)

CONCLUSION: Iatrogenic injury of the popliteal artery increases if anatomical variables are present. Prompt identification and management of iatrogenic injury to the popliteal artery are essential to improve outcomes.







P44 Revascularizing the hepatic artery is enough?

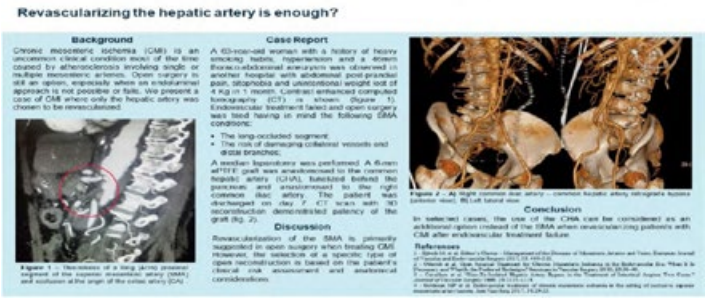
Adriana Machado Ferreira, Emanuel Silva, Viviana Manuel, Luís Mendes Pedro

Unidade Local de Saúde de Santa Maria

ABSTRACT: Chronic mesenteric ischemia is an uncommon disorder caused by severe stenosis of the mesenteric arterial supply that results in postprandial pain and weight loss. The current treatment is most frequently endovascular, but

some cases are still managed by open surgery, especially when an endoluminal approach is not possible or fails. The superior mesenteric artery is the more suitable vessel to be revascularized, as it supplies most of the intestinal organs directly or through the collateral circulation. However, here we report an uncommon case of chronic mesenteric ischemia where only the hepatic artery was chosen to be revascularized with clinical success.

KEYWORDS: chronic mesenteric ischemia, open mesenteric revascularization, common hepatic artery bypass grafting;



P45 Extreme complications demand extreme solutions: a case of limb salvage following high-grade sarcoma resection

António Duarte[1], Daniel Jordão[2], Luis Silvestre[2], Luis Mendes Pedro[2]

[1] Unidade Local de Saude Santa Maria, [2] Unidade Local de Saúde Santa Maria

INTRODUCTION: Although rare, limb sarcomas account for a significant rate of mortality and morbidity following resection. The following case highlights the potential complications following radical resection and the role of vascular surgery in its approach.

CASE REPORT: A 69-year-old patient with a known history of rheumatoid arthritis, type 2 diabetes, hypothyroidism and hypertension complained of intense pain in her left thigh since December 2022. The symptoms were attributed at the time to her rheumatological condition. In March 2023, a soft tissue ultrasound was performed after she noticed a significant increase in her thigh volume, which revealed a voluminous mass in the anterior compartment of the left thigh. She was referred to General Surgery and an MRI was performed, identifying a 17x10x7cm mass deep in the quadriceps muscle involving the superficial femoral vascular compartment. Anatomopathologic analysis revealed a high-grade pleomorphic sarcoma. After multidisciplinary discussion, the patient underwent neoadjuvant radiotherapy and the sarcoma was resected in July 2023, with ligation of the deep femoral vessels. One month after resection, she was admitted to the reanimation room due to hemorrhagic shock and acute bleeding from the surgical wound. An emergent CT scan showed arterial extravasation from the common femoral artery. She was transferred to the OR for emergent repair. Perioperatively, the superficial femoral artery was exposed with rupture of its posterior wall. To prevent further infection and rupture, the superficial femoral artery was ligated and a femoropopliteal bypass was performed. Due to the emergent setting and extensive resection from the previous surgery, a PTFE graft was used and directly implanted to the P3 region, through a posterior tunnel away from the surgical wound. Immediate postoperative recovery was uneventful, with palpable posterior tibial and pedal pulse. The bypass was patent at one month, with no signs of limb ischemia. Nevertheless, due to infectious complications and low likelihood of functional recovery due to extensive muscular resection, the patient was eventually subjected to above-knee amputation.

CLINICAL RELEVANCE: This case highlights the dismal prognosis of high-grade limb sarcomas, either due to low survival rates or to significant postoperative morbidity. The presence of multidisciplinary teams in the elective and urgent approach of these patients is paramount to improve surgical care.

P46 Hybrid approach for treatment of a symptomatic pseudoaneurysm of the tibioperoneal trunk

Leonor Baldaia, Miguel Silva, Eduardo Silva, Celso Nunes, Luís Orelhas, Maria Carmona, João Alegrio, Luís F. Antunes

Centro Hospitalar e Universitário de Coimbra

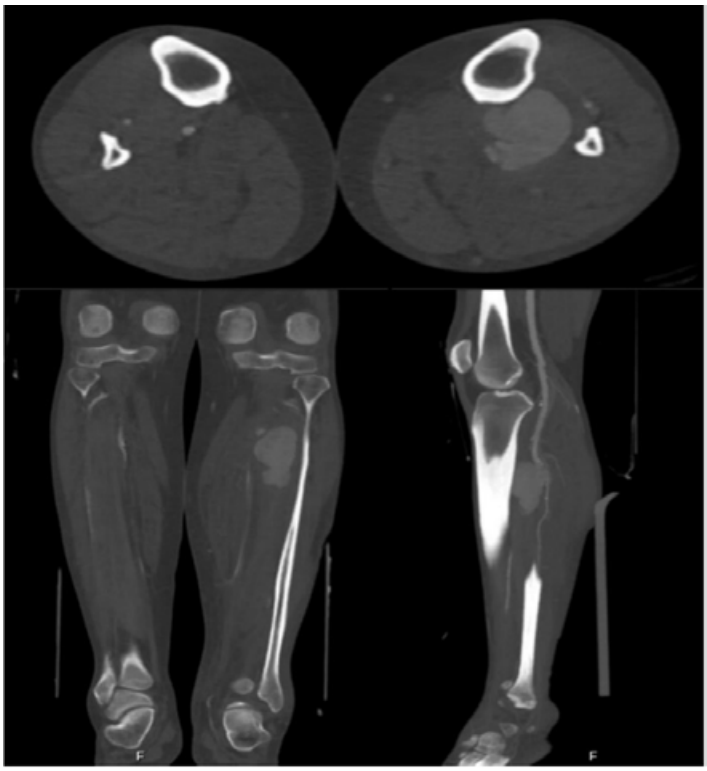
Isquemia medular - apresentação inicial de oclusão aórtica aguda

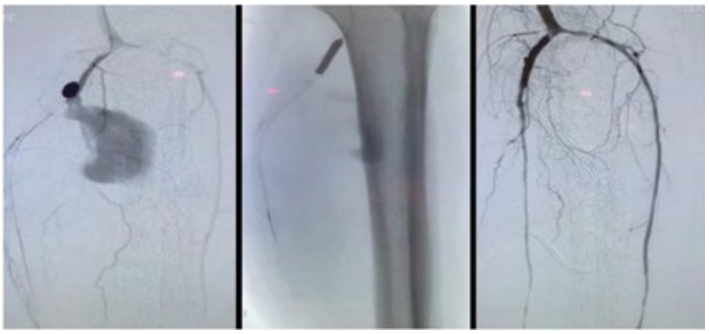
INTRODUCTION: AIntroduction: In the literature, only a small number of cases involving infrapopliteal aneurysms have been documented. These are frequently linked to trauma, infection, and iatrogenic injuries, predominantly manifesting as pseudoaneurysms.

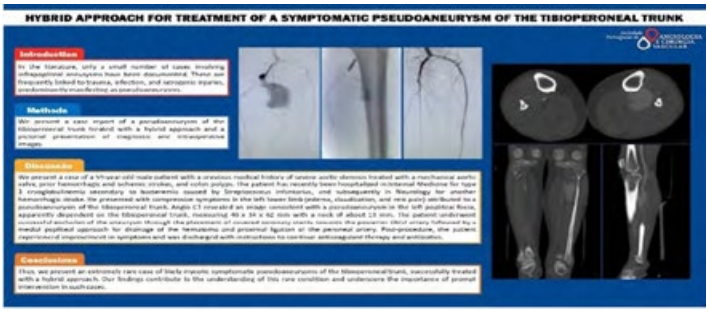
METHODS: We present a case report of a pseudoaneurysm of the tibioperoneal trunk treated with a hybrid approach and a pictorial presentation of diagnostic and intraoperative images.

RESULTS: We present a case of a 59-year-old male patient with a previous medical history of severe aortic stenosis treated with a mechanical aortic valve, prior hemorrhagic and ischemic strokes, and colon polyps. The patient has recently been hospitalized in Internal Medicine for type 3 cryoglobulinemia secondary to bacteremia caused by Streptococcus infantarius, and subsequently in Neurology for another hemorrhagic stroke. He presented with compressive symptoms in the left lower limb (edema, claudication, and rest pain) attributed to a pseudoaneurysm of the tibioperoneal trunk. Angio CT revealed an image consistent with a pseudoaneurysm in the left popliteal fossa, apparently dependent on the tibioperoneal trunk, measuring 40 x 34 x 62 mm with a neck of about 13 mm. The patient underwent successful exclusion of the aneurysm through the placement of covered coronary stents towards the posterior tibial artery followed by a medial popliteal approach for drainage of the hematoma and proximal ligation of the peroneal artery. Post-procedure, the patient experienced improvement in symptoms and was discharged with instructions to continue anticoagulant therapy and antibiotics.

CONCLUSIONS: Thus, we present an extremely rare case of likely mycotic symptomatic pseudoaneurysms of the tibioperoneal trunk, successfully treated with a hybrid approach. Our findings contribute to the understanding of this rare condition and underscore the importance of prompt intervention in such cases.







P47 Blunt thoracic aortic injury: an unusual bailout to access complications

Henrique Almeida, Luís Loureiro, Sergio Teixeira, João Cabral, Henrique Rocha, João Castro, Andreia Pinelo, Miguel Queirós, Samuel Cardoso, Rui Machado

Unidade Local de Saúde Santo António

INTRODUCTION: Blunt thoracic aortic injury (BTAI) is a rare but lethal entity. Recent advances in thoracic endovascular aortic repair (TEVAR) offer a chance to manage the critical BTAI patients in an efficacious and less invasive manner. Polytrauma victims frequently have concomitant injuries that limit use of anticoagulation.

CASE REPORT: A 74-year-old male suffered multiple injuries after a high energy motor vehicle collision. CT examination revealed the multiple injuries including a right hemothorax caused by rib fractures, intracerebral hemorrhage, ischial bone fracture, and grade 3 BTAI in the descending thoracic aorta. Following evaluation by neurosurgery team, conservative treatment was recommended for the intracerebral hemorrhage, but anticoagulation was contraindicated. Preoperative CT-Angio also showed significative stenotic disease of both external iliac arteries (average diameter 7.0 mm bilaterally), a distal stenosis of the right common femoral artery and an occluded right superficial femoral artery. The patient was successfully submitted to emergent TEVAR with a cutdown right femoral access and a percutaneous access in the left femoral artery. Endoprosthesis (22Fr sheet) was advanced through the right femoral access. Digital subtraction angiogram (DSA) control showed successful exclusion of

the BTAI zone. Control of right external iliac artery revealed significant flow limiting dissection which was treated with a heparin-coated stent graft. Subsequent DSA control evidenced a significant flow limiting dissection of the origin of the right deep femoral artery that was addressed by a balloon angioplasty followed by biomimetic self-expanding stent with good technical result. The intervention yielded satisfactory early outcomes. The patient was discharged two weeks after the operation.

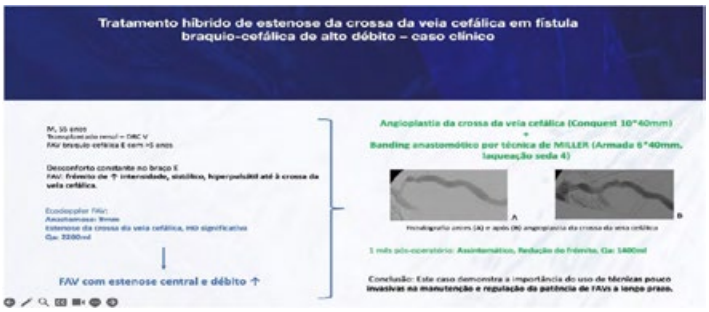
CONCLUSION: In this case we illustrate the challenges of polytrauma victims, frequently requiring an unusual approach. We describe a possible endovascular bailout to overcome access complication in a critical patient with anticoagulation contraindication.

P48 Tratamento híbrido de estenose da crossa da veia cefálica em fístula arterio-venosa de alto débito - caso clínico

Tiago Moura, Filipa Jácome, Leandro Nóbrega, Lara Dias, Diogo Domingues-Monteiro, Tiago Costa-Pereira, Margareth Soares, José Vilas-Boas, Rita Piedade, Joana Ferreira, Luís Coentrão, Armando Mansilha

ULS São João

O presente caso clínico presente demonstrar uma solução cirúrgica híbrida de uma estenose da crossa da veia cefálica associada a uma fístula arterio-venosa de alto débito.
Apresentamos um homem de 55 anos, transplantado renal (DRC V), com história de FAV braquio-cefálica de longa duração. Tem queixas de longa duração de dor constante no braço em que possui a FAV. Ao exame físico possui uma FAV com um frémito de elevada intensidade, sistólico e com hiperpulsatilidade até à região da crossa da veia cefálica.
Ao ecodoppler apresenta uma anastomose com 9mm de diâmetro e com fluxo elevado (Qa: 2200 ml), associado a estenose hemodinamicamente significativa da crossa da veia cefálica. Temos portanto uma estenose central associada a alto débito da FAV.
Foi proposto a este doente uma solução cirúrgica híbrida: angioplastia da crossa da veia cefálica (Balão Conquest 10*40mm) + banding anastomótico por ténica de MILLER (balão armada 6*40mm + laqueação com seda 4).
O resultado cirúrgico foi satisfatório, com um pós-operatório sem intercorrências.
Na avaliação ao 1º mês pós-operatório: reversão sintomática, redução da intensidade do frémito, assim como do débito da FAV (Qa: 1400 ml).
Este caso clínico pretende demonstrar um exemplo em como abordagens inovadoras, combinando métodos de cirurgia clássica e endovascular, são importantes na manutenção e regulação da patência dos acessos vasculares a longo prazo.



P49 Um doente atípico, uma solução atípica?

Daniela Silva, Dr. Gonçalo Queiroz de Sousa, Dra. Maria José Ferreira, Dr. Gil Marques

Hospital Garcia de Orta

A doença aterosclerótica pode afetar diferentes territórios simultaneamente. Este caso baseia se na apresentação de isquemia mesentérica crónica e de doença arterial obstrutiva periférica DAOP de predomínio aorto-iliaco no mesmo doente.
O caso é sobre um homem de 62 anos, autónomo, com antecedentes conhecidos de dislipidemia, HTA e DAOP grau IIb do membro inferior direito (MID) na escala de Leriche-Fontaine, que recorreu ao Serviço de Urgência por agravamento da doença arterial periférica com dor em repouso no referido membro, e ainda história com 1 mês de evolução de perda ponderal involuntária no contexto de dor abdominal pós-prandial, náuseas e vómitos.
Realizou angioTC que evidenciou oclusão do tronco celíaco, oclusão ostial da artéria mesentérica superior (AMS) e oclusão de todo o eixo ilíaco direito, estando a artéria femoral comum (AFC) direita permeável. Distalmente sem doença significativa.
Tentou-se inicialmente revascularização por via endovascular, por acesso femoral esquerdo e umeral esquerdo, sem sucesso na recanalização da AMS nem da artéria ilíaca comum direita, pelo que se optou pela revascularização cirúrgica.
Foi utilizada uma prótese de Dacron bifurcada, com anastomose proximal na aorta infra-renal, um dos ramos anastomosado à AMS e o outro à AFC após tunelização em posição anatómica.
O pós-operatório decorreu sem complicações, tendo tido

alta ao 8º dia de internamento, a tolerar dieta oral e com pulsos distais palpáveis.
Na consulta de seguimento aos 3 meses, constatou-se recuperação de 15 kg de peso e ausência de queixas de claudicação intermitente do MID. Apenas apresentava queixas de disfunção erétil, que se encontra em seguimento em consulta de Urologia.
Este caso para além de apresentar uma solução atípica, desconhecida na comunidade e fora das recomendações das guidelines, também realça importância da decisão de intervir com uma cirurgia major num doente desnutrido, com risco aumentado de complicações pós-operatórias.

P50 Aneurisma primário da veia basílica

Manuel Silva, Roberto Cunha, Nelson Oliveira, Isabel Vieira, Pedro Maximiano, Mafalda Correia, Isabel Cássio, Emanuel Dias

Hospital do Divino Espírito Santo

INTRODUÇÃO: Os aneurismas venosos primários são uma entidade rara e habitualmente assintomática. São mais frequentes nos membros inferiores, nomeadamente na veia poplítea. No entanto, podem ser encontrados em qualquer localização do sistema venoso. Apesar de serem habitualmente benignos, dependendo da sua localização podem estar associados a complicações, como tromboembolismo pulmonar, trombose venosa profunda, trombose do próprio aneurisma ou rotura.

CASO CLÍNICO: Doente de 45 anos, do sexo masculino, sem antecedentes médicos de relevo. Referenciado à consulta externa de Cirurgia Vascular por uma tumefação não pulsátil no braço esquerdo. É acompanhado por uma ecografia de partes moles que descreve uma imagem piriforme, com fluxo ao doppler, compatível com aneurisma vascular. O doente refere um crescimento progressivo da tumefação no último ano, sem história de traumatismos ou punções associadas. Ao ecodoppler observa-se um aneurisma venoso sacular da veia basílica, na proximidade da confluência umeral com cerca de 30x50mm. O doente foi inscrito para cirurgia, tendo-se apresentado 3 semanas depois já com trombose do aneurisma, sem queixas de edema do membro superior esquerdo, apesar de alguma dor local. Assim sendo, foi realizada aneurismectomia, com laqueação da veia umeral e rafia tangencial da veia basílica. No pós-operatório sem intercorrências, tendo tido alta no dia seguinte.

CONCLUSÃO: Os aneurismas venosos podem ser classificados como primários ou secundários consoante a sua etiologia. Os mais frequentes são os secundários, associados a traumatismos, fístulas arteriovenosas, alterações pré-existentes do tecido conjuntivo ou malformações arteriovenosas. Os aneurismas venosos primários são raros e a sua etiologia ainda não se encontra totalmente definida. A sua manifestação é habitualmente assintomática, apresentando-se como uma tumefação de consistência mole, indolor e compressível. O diagnóstico pode ser feito por ecodoppler, tomografia computorizada ou venografia. A sua gestão pode ser conservadora, com anticoagulação e vigilância ou cirúrgica. A melhor abordagem é ainda controversa e deve ser analisada caso a caso, consoante a localização do aneurisma e avaliação dos respetivos riscos associados.

P51 Exclusão endovascular de aneurisma poplíteo após isquemia aguda do membro inferior

Leandro Nóbrega, Filipa Jácome, Lara Dias, Diogo Monteiro, Tiago Moura, Tiago Pereira, Margaret Soares, Rita Piedade, José Vilas-Boas, Joana Ferreira, Pedro Paz Dias, Armando Mansilha

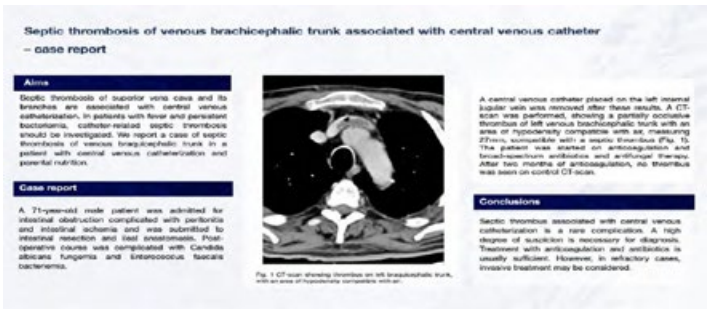
ULS São João

INTRODUÇÃO: Os aneurismas poplíteos podem dar complicações em até 68% dos doentes, sendo uma causa de isquemia aguda com risco de perda de membro de até 60%. Em muitas situações, a resolução do quadro agudo envolve inicialmente a realização de fibrinólise dirigida por cateter e posteriormente exclusão com a realização de um bypass com conduto autólogo. Recentemente, tem havido o advento da exclusão endovascular de aneurisma poplíteo em doentes com certas características.

MÉTODOS: Os autores apresentam o caso de uma isquemia aguda secundária a trombose de aneurisma poplíteo tratado com sucesso com exclusão endovascular.
RESULTADOS
Um doente de 76 anos com antecedentes de EVAR por aneurisma da aorta abdominal deu entrada no serviço de urgência por um quadro de dor e arrefecimento do membro inferior direito com quatro dias de evolução. Apresentava apenas pulso femoral direito palpável, tendo realizado angio-TC que revelou oclusão da artéria poplítea e da região distal da artéria femoral superficial à direita, apresentando um aneurisma poplíteo de 16 mm com calcificação extensa. Dados estes achados, foi transferido para a nossa instituição. À admissão constatou-se gradiente térmico a partir da perna,

palidez do pé e hipostesia dos dedos do membro inferior direito e tinha pulso pedioso contralateral palpável. Dado o diagnóstico de isquemia aguda do membro inferior, foi submetido a fibrinólise dirigida por cateter durante 72h, recuperando permeabilidade da artéria poplítea, da artéria tibial anterior e artéria peroneal. Tendo em conta que o doente deambulava de forma limitada, não apresentava veia compatível com bypass, apresentava calcificação extensa e dois eixos distais patentes e que não havia mismatch significativo na artéria poplítea proximal e distal ao aneurisma, foi decidido realizar exclusão endovascular com prótese coberta auto-expansível. O doente posteriormente teve alta com pulso pedioso palpável e com indicação para manter dupla antiagregração durante 3 meses. Na avaliação do primeiro mês mantinha pulso pedioso direito palpável.

CONCLUSÃO: O gold standard para o tratamento da grande maioria dos aneurismas poplíteos continuará a ser a exclusão com bypass com conduto autólogo. No entanto, o caso descrito demonstra o potencial da exclusão endovascular em alguns doentes e que poderá ser uma alternativa válida especialmente naqueles que não têm conduto autólogo compatível ou disponível.



P52 Gluteal embolization after bleeding pelvic trauma: the heaven after the devil

Marta Machado, Clara Nogueira, Joao Peixoto, Luís Fernandes, Roberto Boal, Francisco Basilio, Patricia Carvalho, Beatriz Guimaraes, Pedro Brandao, Alexandra Canedo

ULSGE

INTRODUCTION: Pseudo aneurism of the superior gluteal artery should be considered as differential diagnosis for unexplained hematomas in the posterior pelvic region following a trauma regardless of its nature. Gluteal pseudoaneurysms are extremely rare and respond to pelvic trauma, penetrating wounds, inflammation or infection in the gluteal region.

CLINICAL CASE: 54 years old woman with no known medical history was bought to the emergency department after a suicide attempt by falling from a 3 meters wall.
At the emergency department she was conscious and collaborator, hemodynamically stable with tetraparesis and expanding hematoma of the right buttock region. Extremities were warm with distal pulses present.
CT scan showed explosive fracture D12 with neurological deficit (neurogenic bladder) and active bleeding from an internal iliac artery (IIA) branch (Figure 1)
The patient was submitted to a left IIA branch embolization with microcoils performed by vascular surgery (Figure 2) followed by orthopedic intervention (Posterior decompression and D10-D11-L1-L2 fixation with reform reduction screws + lordosis bars and right posterolateral arthrodesis).
24 hours later, due to orthopedics surgery control, she did a CTA that revelead gluteal hematoma without active bleeding (Figure 3).

CONCLUSION: Early detection and embolization not only prevent further complications, such as compartment syndrome and hypovolemic shock, but also eliminate the need for any surgical interventions.
The (micro)embolization is a safe and effective treatment option in pelvic trauma with IIA lesions.

Figure 1- CT scan showing active bleeding from an IIA branch

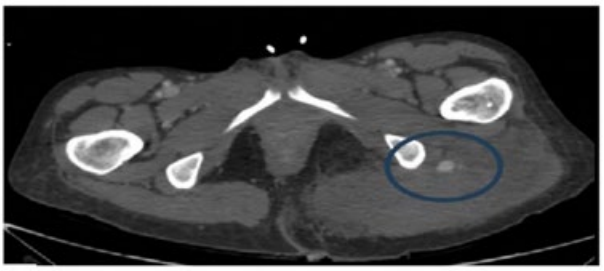


Figure 2- Angiography with left IIA branch embolization with microcoils

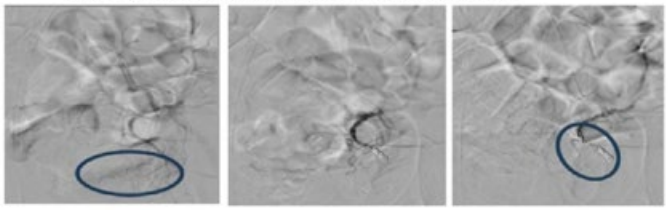
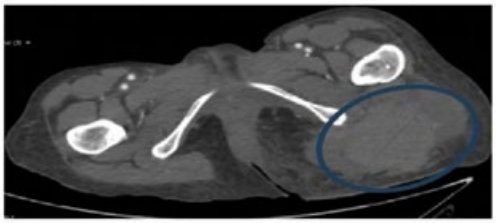
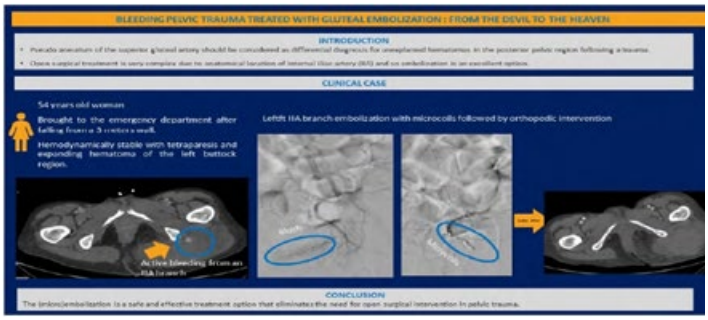


Figure 3- CTA showing a gluteal hematoma without ative bleeding





P53 Aneurisma do sistema porta

Sandrina Figueiredo Braga[1], Ana Cristina Ramalho[2], João Salvador[3]

[1]Cirurgia Vascular - Trofa Saúde Braga Centro, [2]Medicina Interna - Trofa Saúde Braga Centro, 3Radiologia - Trofa Saúde Braga Centro

INTRODUÇÃO: Ao contrário dos aneurismas arteriais, os aneurismas venosos são raros e, entre estes, os aneurismas da veia porta representam 3% dos aneurismas venosos. Definem-se como uma dilatação sacular ou fusiforme de uma veia do sistema venoso portal > 2cm. Em 2023, estavam descritos na literatura apenas 280 casos. Os aneurismas portais são geralmente são extra-hepáticos; a localização intra-hepática é excecionalmente rara. Podem ser congénitos ou adquiridos, sintomáticos (dor abdominal, icterícia, hemorragia digestiva alta) ou diagnosticados acidentalmente.
Caso Clínico: Mulher, 61 anos, enviada à consulta por aneurisma assintomático do ramo esquerdo da veia porta, com 26*20 mm de diâmetro, suspeito em TC sem contraste e confirmado por eco-Doppler abdominal. Antecedentes de HTA, dislipidemia e atropelamento aos 8 anos, sem intervenção cirúrgica. Etiologicamente, foram excluídos: hipertensão portal, procedimentos invasivos portais, infecção, hipercoaguabilidade e neoplasia. Revendo exames imagiológicos anteriores, foi possível confirmar a presença e estabilidade dimensional do aneurisma nos últimos 5 anos. Foi decidido tratamento conservador, com vigilância anual por eco-Doppler.
Conclusão: O conhecimento desta entidade é importante para o diagnóstico correto, evitando exames, procedimentos e tratamentos desnecessários. LAURENZI et al propôs um algoritmo de decisão em função da presença ou ausência de sintomas, preconizando conduta expectante em aneurismas assintomáticos. Moreno et al. sugere tratamento cirúrgico em aneurismas >3 cm. Todavia, a taxa de mortalidade cirúrgica é elevada e o tratamento deve ser reservado para centros especializados.

P54 Septic thrombosis of venous brachicephalic trunk associated with central venous catheter – case report

Lara R. Dias, Filipa Jácome, Leandro Nóbrega, Diogo Domingues-Monteiro, Tiago Moura, Tiago Costa-Pereira, Margareth Soares, Rita Piedade, José Vilas-Boas, Armando Mansilha

Unidade Local de Saúde São João

AIMS: Septic thrombosis of superior vena cava and its branches are associated with central venous catheterization. In patients with fever and persistent bacteriemia, catheter-related septic thrombosis should be investigated. We report a case of septic thrombosis of venous braquicephalic trunk in a patient with central venous catheterization and parental nutrition.

CASE REPORT: A 71-year-old male patient was admitted for intestinal obstruction complicated with peritonitis and intestinal ischemia and was submitted to intestinal resection and ileal anastomosis. Post-operative course was complicated with Candida albicans fungemia and Enterococcus faecalis bacteriemia, which was associated with an infected central venous catheter placed on the left internal jugular vein, which was removed. A CT-scan was performed, showing a partially occlusive thrombus of left venous brachicephalic trunk with air, compatible with a septic thrombus. The patient was started on anticoagulation and broad-spectrum antibiotics and antifungal therapy. After two months of anticoagulation, no thrombus was seen on control CT-scan.

CONCLUSION: Septic thrombus associated with central venous catheterization is a rare complication. A high degree of suspicion is necessary for diagnosis. Treatment with anticoagulation and antibiotics is usually sufficient. However, in refractory cases, invasive treatment may be considered.

P55 Case report: delayed diagnosis of brachial artery injury following shoulder dislocation

Tiago Costa-Pereira, Lara Dias, Diogo Domingues-Monteiro, Leandro Nóbrega, Tiago Moura, Filipa Jácome, Rita Piedade, Margaret Soares, José Vilas-Boas, Joel Sousa, Armando Mansilha

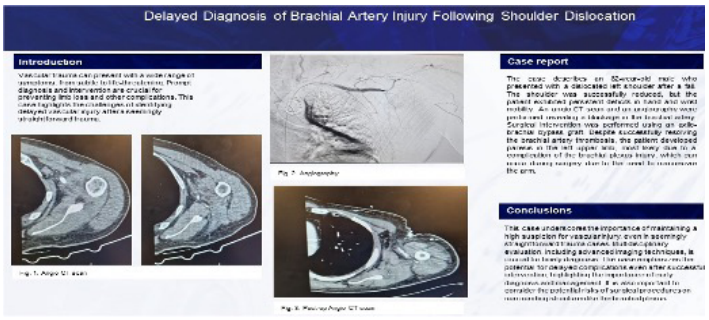
ULS São João

BACKGROUND: Vascular trauma can present with a wide range of symptoms, from subtle to life-threatening. Prompt diagnosis and intervention are crucial for preventing limb loss and other complications. This case highlights the challenges of identifying delayed vascular injury after a seemingly straightforward trauma.

OBJECTIVES: This case report aims to illustrate the importance of maintaining a high index of suspicion for vascular injury even after successful treatment of the primary trauma. It emphasizes the need for a multidisciplinary approach to ensure optimal patient outcomes.

METHODS: The case describes an 82-year-old male who presented with a dislocated left shoulder after a fall. The shoulder was successfully reduced, but the patient exhibited persistent deficits in hand and wrist mobility.
Results: An angio CT scan and an angiography were performed revealing a blockage in the brachial artery. Surgical intervention was performed using an axilo-brachial bypass graft. Despite successfully resolving the brachial artery thrombosis, the patient developed paresis in the left upper limb, most likely due to a complication of the brachial plexus injury, which can occur during surgery due to the need to manoeuvre the arm.

CONCLUSIONS: This case underscores the importance of maintaining a high suspicion for vascular injury, even in seemingly straightforward trauma cases. Multidisciplinary evaluation, including advanced imaging techniques, is crucial for timely diagnosis. The case emphasizes the potential for delayed complications even after successful intervention, highlighting the importance of early diagnosis and management. It is also important to consider the potential risks of surgical procedures on surrounding structures like the brachial plexus.



P56 Coil it: inferior mesenteric artery embolization to treat a type II endoleak

Rita Piedade, José Miguel Vilas Boas, Margaret Soares, Tiago Costa-Pereira, Tiago Moura, Lara Dias, Diogo Domingues-Monteiro, Leandro Nóbrega, Filipa Jácome, Tiago Soares, Joel Sousa, Jorge Costa Lima, Armando Mansilha

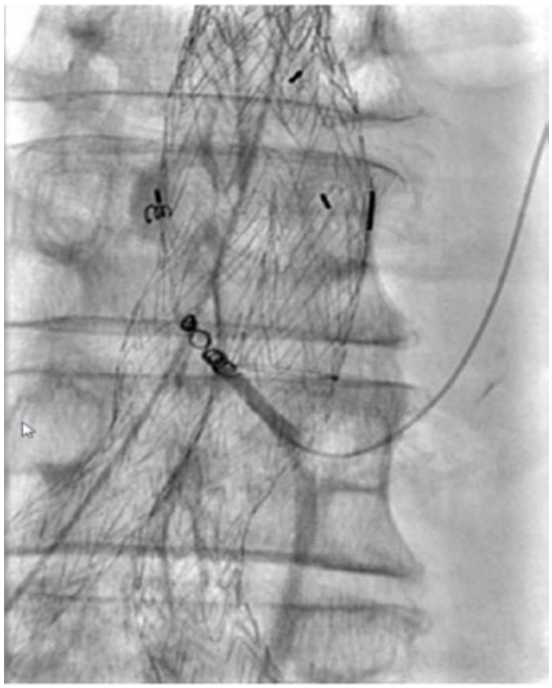
Centro Hospitalar São João

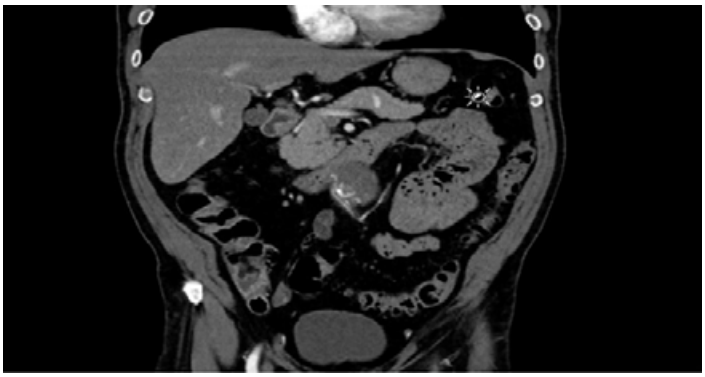
INTRODUCTION: One of the primary causes of failure of endovascular aneurysm repair (EVAR) is the occurrence of endoleaks, which regardless of size or type can lead to a gradual expansion of the aneurysm and rupture. Type II endoleaks occurs when blood flows into the aortic aneurysm sac, most commonly via inferior mesenteric artery and lumbar arteries. Albeit mostly benign, type II endoleak can also be associated with significative aortic sac growth with need of reintervention.

METHODS: Patients' clinical information and imagological studies were reviewed retrospectively.

CASE REPORT: A 72-year-old male patient with dyslipidemia, hypertension, and previous smoking history was submitted to EVAR to exclude an abdominal aortic aneurysm (AAA) with 62mm of diameter. Computed tomography (CT) at 30 days, revealed a type II endoleak originating from the inferior mesenteric artery, without relevant aortic growth. At the 6-month of follow-up, CT confirmed the persistence of the endoleak, but already associated with an 11mm diameter increase, raising concerns about the risk of rupture. Thus, endoleak treatment was deemed necessary. Through a common femoral artery access, superior mesenteric artery was catheterized and an angiography confirmed the significative endoleak originating from the inferior mesenteric artery. Using a microcatheter, the arc of Riolan was selectively catheterized until achieve the inferior mesenteric artery and 3 and 4mm coils were deployed, near the aneurysm sac. Final angiogram demonstrated successful inferior mesenteric artery embolization and resolution of type II endoleak.

CONCLUSION: EVAR is a widely used technique for AAA treatment. Despite its overall success, endoleaks persist as a prevalent complication after EVAR. Despite mostly type II endoleaks are benign, inn cases with significative aortic sac increase, reintervention could be necessary. Endovascular treatment with selective embolization of inferior mesenteric artery was an effective and minimally invasive approach for type II endoleak.





transient loss of consciousness. After enduring these symptoms for a month, he presented to the emergency room with persistent pain. Despite hemodynamic stability, his haemoglobin was 7.6 g/dL. CT angiography (CTA) revealed a ruptured AAA measuring approximately 70mm with an extensive retroperitoneal hematoma. He underwent emergent aorto-uni-iliac EVAR and femoral-femoral bypass upon transfer to our institution, with an uneventful procedure and subsequent ICU surveillance. However, on the fifth post-operative day, he developed sudden, severe back and leg pain. CTA showed an expanding retroperitoneal hematoma and persistent endoleak posterior to the EVAR. Immediate intervention with an endovascular graft moulding balloon was attempted to address a possible type 3 endoleak, but it persisted, ultimately confirming a T2EL during angiography. Subsequent hypotension and tachycardia prompted emergent open conversion. Sac arteriotomy revealed three large lumbar arteries adjacent to the EVAR endograft, causing substantial bleeding during ligation. Additionally, an incidental aortic-enteric primary fistula was discovered, necessitating duodenal repair. Despite efforts in the ICU, the patient succumbed to complications the following day.

DISCUSSION: Primary T2EL following rEVAR presents unique challenges compared to elective procedures due to the ruptured state of the aneurysmal sac. In this scenario, the endoleak can exacerbate and prolong blood loss. Studies have shown a prevalence of 30.5% for chronic type II endoleaks after EVAR for ruptured AAA, suggesting conservative management unless associated with aneurysm growth. However, in cases of persistent haemorrhage or hematoma enlargement post-emergency EVAR for ruptured AAA, prompt intervention is warranted. The choice of intervention depends on the patient's clinical stability and vascular anatomy.

P57 Early AAA rupture after revar: don't underestimate the role of lumbar arteries

Henrique Guedes da Rocha, Pedro Sá Pinto, João Castro, Andreia Pinelo, Henrique Almeida, Miguel Queirós, João Cabral, Samuel Cardoso, Carolina Vaz, Rui Machado

Unidade Local de Saúde de Santo António

INTRODUCTION: Ruptured abdominal aortic aneurysms (rAAA) are increasingly treated using endovascular aneurysm repair (EVAR), aligning with clinical guidelines. Type 2 endoleak (T2EL) via patent lumbar arteries is a known risk factor for aneurysm sac expansion and rupture, with risk correlating with the number of patent lumbar arteries. We present a case of rEVAR, which subsequently developed a primary T2EL resulting in persistent blood loss and increased retroperitoneal hematoma.

CASE REPORT: A 65-year-old male with previously known AAA experienced back pain and weakness following a

P58 Femoral artery and vein trauma by disc cutter blade – a case report

Lara R. Dias, Leandro Nóbrega, Filipa Jácome, Tiago Moura, Tiago Costa-Pereira, Diogo Domingues-Monteiro, Margareth Soares, José Vilas-Boas, Rita Piedade, Pedro Henrique Almeida, Armando Mansilha

Unidade Local de Saúde São João

AIMS: Vascular injury of the lower limbs is an uncommon complication of trauma but requires expedite diagnosis and treatment in order to preserve limb function. These injuries can be arterial or venous alone, and are combined in up to 36% of patients. We report a case of combined superficial femoral artery and vein injury due to trauma with a disc cutter blade requiring surgical treatment.

CASE REPORT: A 37-year-old male with no previous medical history was transported to our emergency department

after trauma with a disc cutter blade to the right groin. He reported working with a disc cutter on wood when the disc separated from the machine and hit the groin. Pre-hospital team reported massive blood loss from the groin wound, and a tourniquet was applied. At arrival, he was hemodynamically stable, only complaining of lower limb pain. Tourniquet was removed with controlled haemorrhage from the wound, and doppler ultrasound revealed focal thrombosis of proximal femoral artery with apparent active bleeding proximally, and monophasic doppler signal distally of the lesion. The patient was transported to the operating room for emergent repair. On inspection, there was an area of intimal disruption and segmental thrombosis of proximal superficial femoral artery, which was repaired using a great saphenous vein interposition graft. Femoral vein lesion was also noted, with a laceration which was repaired primarily. Post-operative course was uneventful, having the patient received a week of prophylactic antibiotic. He remains asymptomatic during follow-up, with palpable distal pulses.

CONCLUSION: Vascular injury, while uncommon, can have considerate morbidity and carry the risk of amputation if not properly identified and treated. Diagnosis can be made using doppler ultrasound in the emergency department. Treatment is more commonly surgical, but endovascular treatment has also been reported.

P59 Aortic trhombus and acute mesenteric ischemia: two complex underdiagnosed entities

Marta Machado, Ricardo Gouveia, Joao Peixoto, Luis Fernandes, Francisco Basilio, Patricia Carvalho, Beatriz Guimaraes, Pedro Brandão, Alexandra Canedo

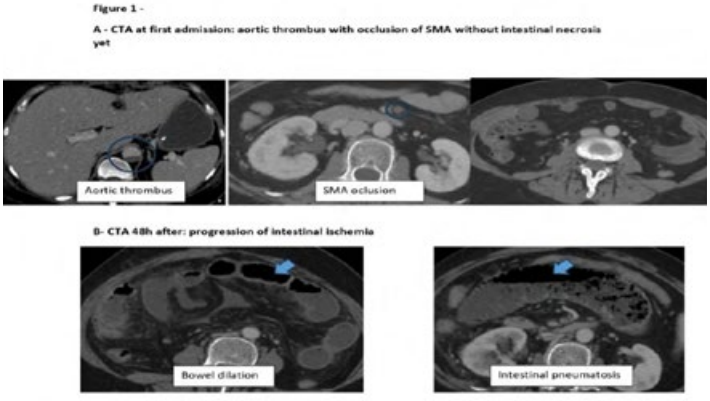
ULSGE

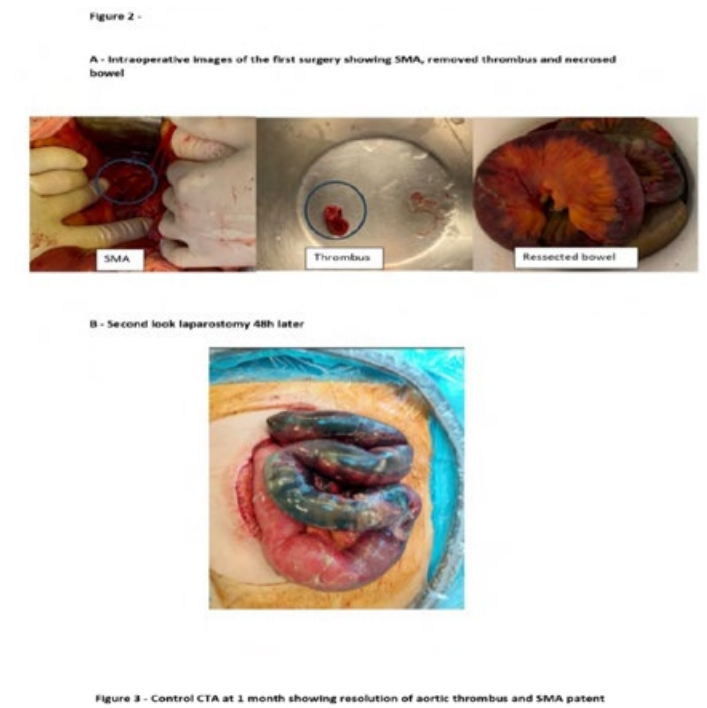
INTRODUCTION: Early identification of acute mesenteric ischemia (AMI) is challenging because of the non-specific clinical and laboratory presentation. Despite major diagnostic and treatment advances over the past decades, mortality of acute mesenteric ischemia (AMI) remains high.

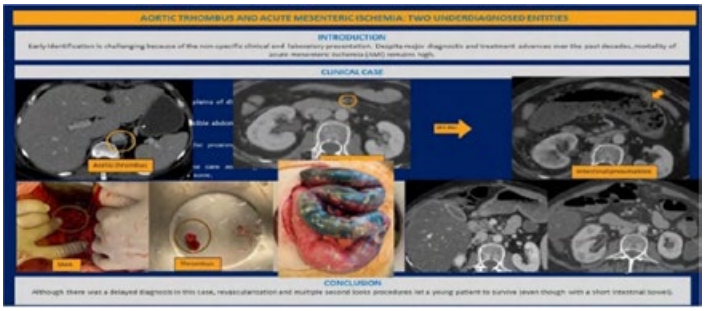
CLINICAL CASE: 61 years old obese woman went to another hospital with 24-hour complains of diffuse abdominal pain with nausea, vomiting. She was hemodynamically stable with a soft, depressible abdomen, diffusely painful on palpation. Lactates= 4
CTA only reported slight prominence of the proximal ureter although it already has occlusion of SMA (not reported) (Figure 1A). She was admitted to the Internal Medicine care assuming a right non-obstructive pyelonephritis and empirically started ceftriaxone.
2 days after due to abdominal pain maintenance she repeated CTA which already reported occlusive thrombus of the SMA 5 cm from the origin and marked distension of jejunum and ileum, associated with the presence of intraperitoneal fluid in pelvic excavation. (Figure 1-B).
The patient was urgently transferred to our hospital and underwent a laparotomy together with Vascular Surgery + General Surgery (Figure 2 A):
1º) **Clip and drop enterectomy** from ~80 cm of the Treitz to 5 cm of the VIC
2º) **Thromboembolectomy of SMA**
3º) **2nd clip and drop enterectomy** – After revascularization progression of ischemia of the proximal top with the need to increase enterectomy by ~30 cm, leaving ~50 cm of jejunum in situ proximal
4º) **Laparostomy with TPN**

48 hours later in the second look: another segmental enterectomy was performed (Figure 2B) maintaining only 30cm of jejunum from the Treitz angle and maintains approximately 5cm of terminal ileum with viability
96hours later: Ileocecal resection; jejunocolic anastomosis; and abdominal wall closure
She was 2 weeks in ICU under NPT, hypocoagulation and ceftriaxone + metronidazol. She was discharged home tolerating a liquid diet, without abdominal pain, with maintained transit (2 copious and very acidic dejections) with cholestyramine.
At 6 months follow up CT control (Figure 3) showed resolution of aortic thrombus, SMA patent and no intestinal anastomosis leakage.

CONCLUSION: Although there was a delayed diagnosis in this case, revascularization and multiple second looks procedures let a young patient to survive (even though with a short intestinal bowel.)







P60 Radial arterial line catheter fracture: a rare complication with a simple surgical solution

Beatriz Guimarães[1], Patrícia Carvalho[2], Francisco Basílio[2], Marta Machado[2], Luís Fernandes[2], João Peixoto[2], Ricardo Castro Ferreira[2]

[1]ULS Gaia Espinho, [2]ULS GE

INTRODUCTION: With the growing number of endovascular procedures executed by medical specialties, iatrogenic complications are increasing rapidly and the need for urgent evaluation and intervention has become a part of the vascular surgery consults.

The arterial line (AL) is used for continuous blood pressure (BP) measurements and is associated with a very low rate of complications. Catheter fracture and embolization is an extremely rare event.

METHODS

CASE REPORT

CASE DESCRIPTION: Male, 81 years-old, with a history of atrial fibrillation. No current medications. The patient was admitted to the stroke unit after thrombectomy due to stroke and had a radial AL placed and maintained for the first 24 hours. No access complications or catheter malfunctioning were registered.

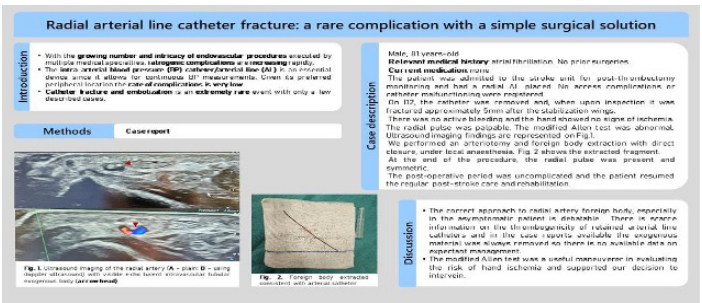
On attempted removal, it spontaneously fractured 5mm after the stabilization wings. There was no active bleeding, and the hand showed no signs of ischemia and the radial pulse was palpable. The modified Allen test was abnormal. Ultrasound imaging was used to evaluate the radial artery and identify exogenous material.

The high risk of thrombosis and unreliable collateral circulation of the hand guided the decision to surgically remove the catheter.

We performed an arteriotomy and foreign body extraction with direct closure, under local anaesthesia. At the end of the procedure, the radial pulse was present and symmetric. The post-operative period was uncomplicated, and the patient resumed the regular post-stroke care and rehabilitation.

DISCUSSION: Given its low frequency, the correct approach to radial artery foreign body, especially in the asymptomatic patient is debatable. There is scarce information on the thrombogenicity of retained arterial line catheters and in the case reports available the exogenous material was always removed so there is no available data on expectant management. The modified Allen test was a useful maneuverer in evaluating the risk of hand ischemia and supported our decision to intervein.

CONCLUSION: Arterial catheter fracture is a rare complication of invasive BP monitoring through an AL. There is very low evidence supporting best practice in the case of retained material. Pondered case by case decision should consider presence or high risk of hand ischemia.



P61 Amputação transradial em doente com esclerose sistémica

Carlos Lobão[1], João Diniz[2], Gabriela Teixeira[3], Vitor Ferreira[3], Marlene Sousa[4], João Almeida Pinto[3]

[1]Ortopedia e Traumatologia, Unidade Local Saúde Tâmega e Sousa,
[2]Medicina Física e de Reabilitação, Unidade Local Saúde Tâmega e Sousa,
[3]Angiologia e Cirurgia Vascular, Unidade Local Saúde Tâmega e Sousa,
[4]Reumatologia, Unidade Local Saúde Tâmega e Sousa

INTRODUÇÃO: A esclerose sistémica (ES) é uma doença crónica caracterizada por uma progressiva disfunção vascular e fibrose, quer cutânea (esclerodermia) quer visceral. O prognóstico é pior no sexo masculino, com uma evolução aguda da doença e com um maior atingimento sistémico. A esclerodermia manifesta-se clinicamente com edema e prurido em estadios iniciais e evolui até lesões ulceradas e necróticas em estadios mais avançados.

CASO CLÍNICO: Homem de 60 anos, fumador, com antecedentes de Síndrome do Roubo Subclávio e ES em estadio avançado, sob terapêutica médica otimizada, com atingimento difuso com ulceração digital e necrose. Submetido previamente a amputações digitais do 2º, 3º, 4º e 5º dedo da mão esquerda. Seguido em consulta de Cirurgia Vascular com surgimento de novas lesões irreversíveis a nível dos cotos distais e necrose do polegar. Avaliado por Fisiatria dada a reduzida atividade funcional do punho. Submetido a amputação transradial com vista a tentativa de protetização para ganho funcional.

DISCUSSÃO: As lesões nas regiões digitais, mãos e a face são as primeiramente afetadas na ES. Segundo os estudos, 50% destas lesões evoluem para estadios irreversíveis e comprometem a região afetada podendo levar a infeção generalizada e progressão proximal dos fenómenos vasculares. Dado haver uma apetência principal dos pequenos vasos, a desarticulação do punho ou a amputação transradial eram opção neste caso clínico. Porém, face à condição clínica, à reduzida mobilidade do punho e ao potencial de protetização, a amputação transradial foi a opção tomada. O procedimento cirúrgico foi efetuado a nível do 1/3 distal e depreendeu ainda a preservação de um bom coto distal. O coto obtido estava bem almofadado com vista as possíveis alterações cutâneas, bem como garantir uma boa interface futura coto-prótese.

CONCLUSÃO: As amputações transradiais são muito frequentes em contexto traumático. No entanto, em casos extremos de patologias crónicas, como a ES, revela-se promissora e a multidisciplinariedade das diferentes especialidades podem devolver autonomia funcional ao doente e garantir o controlo de focos isquémicos e necróticos melhorando a clínica e a qualidade de vida do doente.

P62 Not just a headache: the importance of physical exam on diagnosing takayasu arteritis

Eduardo Silva, Joana Iglésias, Celso Nunes, Miguel Castro, Leonor Baldaia, Luís Orelhas, Maria Carmona, Joana Moreira, Manuel Fonseca

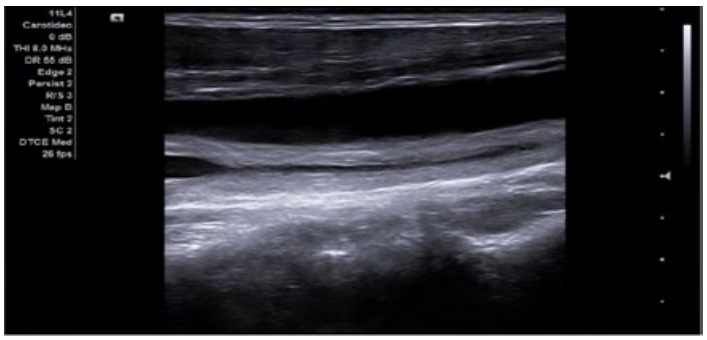
Centro Hospitalar e Universitário de Coimbra

INTRODUCTION: Takayasu Arteritis is a rare inflammatory disease that primarily targets large blood vessels, mainly the aorta and its major branches. This condition leads to vessel inflammation, causing wall thickening and narrowing, eventually leading to scarring. It affects mostly young women, leading to constitutional symptoms, such as fatigue, weight loss, cramps, joint paint, as well as symptoms resulting from hypoperfusion of limbs and organs. We present a case of initial diagnosis of Takayasu Arteritis.

CASE REPORT: A 21-year-old female with diagnosis of generalized anxiety complained of headaches and weight loss which started near college exam season. Symptoms were initially attributed to her clinical anxiety and she was medicated accordingly, without improvement. After 3 months, she developed right upper limb numbness and her family doctor detected absent pulses on the same limb, as well as a difference of > 30mmHg on systolic pressure in different arms. The patient performed a cervical duplex ultrasound with stenosis of both common carotid arteries and was referred to our department. After repeating the ultrasound in our consult, severe lumen narrowing of both common carotid arteries, caused by severe circumferential

wall thickening (macaroni sign), was visible. Chest and neck computed tomography angiography confirmed occlusion of the brachiocephalic trunk and near occlusion of the left common carotid, with an unaffected left subclavian artery. Due to high clinical suspicion of large vessel vasculitis the patient was referred to Rheumatology and positron emission tomography scan was performed, confirming enhanced inflammatory activity at the aortic arch, supra-aortic trunks and abdominal aorta. The patient was diagnosed with Takayasu Arteritis and recently started on corticosteroids and methotrexate with clinical improvement.

CONCLUSION: Early diagnosis of Takayasu Arteritis is essential in effectively managing the condition and preventing serious complications. Regular vascular exam with pulse palpation can help in the early detection of vascular abnormalities, especially in young patients with sustained constitutional symptoms that cannot be attributed to other causes.



P63 Acute mesenteric ischemia in an elderly obese woman: a case report

Tiago Costa-Pereira, Lara Dias, Diogo Domingues-Monteiro, Leandro Nóbrega, Tiago Moura, Filipa Jácome, Rita Piedade, Margaret Soares, José Vilas-Boas, José Almeida Lopes, Armando Mansilha

ULS São João

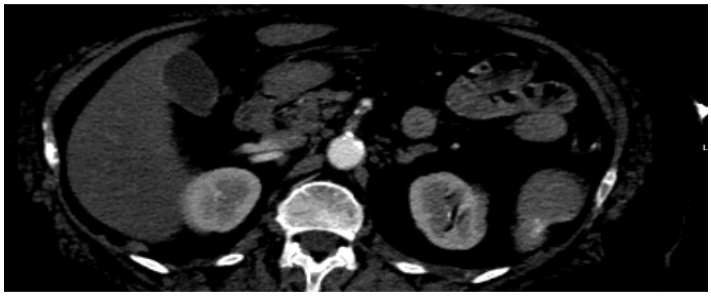
BACKGROUND: Acute mesenteric ischemia (AMI) is a life-threatening condition with high mortality rates. Early diagnosis and intervention are crucial for improved outcomes. Patients with comorbidities, such as obesity, hypertension, and dyslipidaemia, are at increased risk for AMI

OBJECTIVES: This case report describes the clinical presentation, diagnostic challenges, and successful management of AMI in a 79-year-old woman with multiple comorbidities.

METHODS: A 79-year-old woman presented with abdominal pain, diarrhea, and vomiting. Laboratory findings were suggestive of inflammation and muscle injury. Imaging studies revealed celiac trunk occlusion and superior mesenteric artery stenosis. Endovascular intervention with stenting was performed.

RESULTS: The patient initially improved but developed further abdominal pain. Repeat imaging showed stent patency but also revealed renal artery embolization, likely a complication from the procedure. Conservative management was chosen by Urology due to a lack of functional impairment. After 6 months on dual antiplatelet therapy, the patient's symptoms completely resolved.

CONCLUSIONS: This case highlights the importance of considering AMI in older patients with abdominal pain and risk factors, even in the absence of classic symptoms. It also emphasizes the potential for complications during endovascular procedures and the need for close monitoring in the postoperative period.



P64 Endarterectomia carotídea emergente em doentes com lesões em tandem – outra possibilidade terapêutica?

Luis Orelhas, Maria Neves Carmona, Miguel Castro e Silva, Leonor Baldaia, Eduardo Silva, Celso Nunes, Mário Moreira, Luis Antunes, Manuel Fonseca

ULS Coimbra

INTRODUÇÃO: Dos Acidentes Vasculares Cerebrais (AVC), os associados a lesões em tandem representam cerca de 10-20% dos casos. Estas são definidas por oclusão de grande vaso intracraniano associadas a estenose/oclusão carotídea extracraniana. Atualmente, existem 4 terapêuticas aceites nesta situação, segundo as Guidelines mais recentes: Trombectomia Mecânica (MT) síncrona com Stenting Carotídeo (CAS) com/sem terapêutica antiplaquetar; MT com Angioplastia Carotídea com Balão ou apenas MT. Neste momento existe um ensaio clínico randomizado multicêntrico (TITAN) a decorrer comparando a segurança e eficácia de cada dos descritos.
No entanto, presentemente, não existe nenhum estudo comparando a segurança e eficácia da Endarterectomia Carotídea (CEA) realizada de forma emergente e o CAS síncronas com MT.

MÉTODOS E MATERIAIS: Revisão da literatura acerca da temática, com pesquisa na Pubmed e referências cruzada.

RESULTADOS: Slawski et al. publicou uma série de 45 doentes com AVC, submetidos a MT e CAS concomitantemente (n=27) versus MT e CEA emergente (n=12). 6 do total dos doentes não foram submetidos a tratamento da lesão proximal com sucesso, sendo que em 3 deles se verificou reoclusão da artéria carótida interna enquanto aguardavam CEA. Outcomes aos 90 dias de follow-up foram avaliados através da modified Rankin scale (mRs) e da mortalidade. Concluíram que ambas as opções terapêuticas devem ser consideradas em doentes com AVC e lesões em tandem, sendo a CEA eficaz e segura em doentes selecionados. Sugerem que a melhor abordagem deve ser discutida em equipa multidisciplinar.
Noutra série de 89 doentes, Singh et al. verificou uma taxa de Hemorragia Intracraniana (HIC), com efeito ocupante de espaço significativo superior, em doentes submetidos a MT-CAS, relativamente a MT-CEA (16% vs 7% respetivamente, p=0.333). Ainda assim, não se encontraram diferenças de modified Rankin scale (mRs) e mortalidade.
Numa outra série de 47 doentes, Yousefian Jazi et al. não encontrou maior risco de novos eventos isquémicos relativamente ao descrito na literatura.

CONCLUSÃO: Em doentes com lesões carotídeas em tandem, submetidos a trombectomia mecânica, CEA poderá ser uma nova abordagem no seu tratamento agudo. Deverão ser realizados mais estudos para clarificar os critérios que deverão levar as equipas a optar pelo tratamento, em vez de MT-CAS.

P65 Exploring endovascular aortic repair:a comparative analysis of open iliac conduit and endoconduit techniques in terms of complications and safety

Miguel Castro e Silva, Maria Carmona, Luis Orelhas, Eduardo Silva, Leonor Baldaia, Celso Nunes, João Alegrio, Manuel Fonseca

ULS Coimbra

BACKGROUND: Endovascular aortic repair (EVAR) has significantly evolved as a preferred treatment for aortic pathologies due to its less invasive nature compared to traditional open surgery. Achieving adequate vascular access is crucial for the success of EVAR, especially in patients with challenging iliac artery anatomy. Open iliac conduit (OIC) and endoconduit (EC) techniques have been developed to facilitate device delivery in such cases. This article aims to comprehensively compare the outcomes, complications, and safety profiles of OIC and EC techniques, shedding light on their clinical utility in EVAR.

METHODS: A targeted literature review was conducted utilizing PubMed and Embase databases to gather and analyze contemporary evidence on the use of open iliac conduit (OIC) and endoconduit (EC) techniques in endovascular aortic repair (EVAR). The search strategy was focused on identifying meta-analyses, systematic reviews and reviews specifically addressing the outcomes, complications, and safety profiles associated with OIC and EC techniques.

RESULTS: The analysis revealed that OIC techniques are associated with higher procedural impacts, including increased blood loss and extended hospital stays, compared to EC techniques. Despite these differences, both techniques demonstrated high technical success rates and comparable long-term outcomes. Notably, planned conduits, regardless of the technique, resulted in fewer periprocedural complications and improved safety profiles.

CONCLUSION: Both OIC and EC techniques offer viable pathways to overcome iliac access challenges in EVAR, each with its unique advantages and limitations. The choice between these techniques should be tailored to individual patient characteristics and the specific anatomical challenges presented. The continuous evolution of endovascular technologies is anticipated to further refine these approaches, enhancing their application and outcomes in clinical practice. Future research focusing on technological innovation and optimization of patient selection criteria is crucial for advancing the field of vascular surgery.

P66 Tratamento endovascular de aneurismas viscerais – casuística de um serviço de cirurgia vascular

Ana Correia Matos, Tiago Ferreira, Lourenço Castro e Sousa, Vitor Bettencourt, Orlanda Castelbranco

Unidade Local de Saúde Local Lisboa Ocidental

INTRODUÇÃO: Os aneurismas viscerais são entidades vasculares raras, com risco de mortalidade. São normalmente assintomáticos e diagnosticados acidentalmente através de exames imagiológicos motivados por outra patologia. Contudo, podem associar-se a sintomatologia compressiva ou de rotura. Os aneurismas das artérias esplénicas são a terceira causa de aneurismas abdominais e a primeira de aneurismas viscerais. Seguem-se os aneurismas da artéria hepática e da artéria mesentérica superior. Atualmente, a angio-tomografia computorizada (angio-TC) permite o diagnóstico, a vigilância, o planeamento cirúrgico e o seguimento. Quando há indicação cirúrgica, o tratamento endovascular é a primeira opção pela menor morbimortalidade associada à intervenção.

OBJETIVOS: Avaliar o tratamento dos doentes com aneurismas viscerais num Serviço de Cirurgia Vascular entre os anos 2008 e 2023.

MÉTODOS: Análise retrospetiva dos processos clínicos dos doentes tratados por aneurismas viscerais entre os anos 2008 e 2023. A localização anatómica; as comorbilidades; a sintomatologia; o tipo e sucesso da intervenção e as complicações resultantes são alguns dos fatores avaliados. Foram excluídos os doentes não intervencionados.

RESULTADOS: Foram tratados quinze doentes com aneurismas viscerais, num total de dezassete procedimentos no mesmo internamento. Destes, nove estavam localizados na artéria esplénica, um no tronco celíaco, dois na artéria mesentérica superior, dois na gastro-duodenal, e um na pancreática-duodenal. Dez aneurismas foram acidentalomas, dois sintomáticos e três rotos (duas roturas contidas). Dois doentes tinham aneurismas viscerais em mais do que uma localização, contudo em ambos apenas foi efetuada apenas uma intervenção (artéria esplénica). Dos dezassete procedimentos, em quatro não foi possível alcançar o sucesso cirúrgico imediato. Ocorreram duas complicações com necessidade de re-intervenção a curto prazo: rotura de colateral da artéria hepática e trombose do acesso. Registaram-se duas mortes. As intervenções incluíram embolização com coils, colocação de stents cobertos e colocação de endoprótese.

CONCLUSÃO: Os aneurismas viscerais são raros e na sua maioria são acidentalomas. A sua frequência tem aumentado pelo uso crescente de exames imagiológicos, nomeadamente doppler arterial e angio-TC, também usados na monotorização pré e pós-operatória. Os procedimentos endovasculares são preferenciais pela menor morbilidade quando comparados com a cirurgia convencional.

P67 Asymptomatic penetrating aortic ulcer: when to intervene?

Celso Nunes, Juliana Varino, Eduardo Silva, Miguel Silva, Leonor Baldaia, Luis Orelhas, Maria Carmona

Centro Hospitalar e Universitário de Coimbra

INTRODUCTION: Asymptomatic penetrating aortic ulcers (PAU) present challenges in management due to their potential for catastrophic complications. While some advocate for early intervention, others propose a conservative approach with image surveillance. This study aims to provide a comprehensive review of the literature on the management of asymptomatic PAU.

METHODS: A systematic search of PubMed and Embase databases was conducted to identify relevant articles published in the last 10 years. Ten articles meeting the inclusion criteria were selected for review. Data regarding treatment modalities, outcomes, and survival rates were extracted and analyzed.

RESULTS: D'annoville et al found that among patients with asymptomatic PAU, 36% eventually required repair, with 43% demonstrating radiographic progression. Salim et al, Rokosh et al and Pandey et al found better long-term survival in patients initially treated with endovascular repair compared to medical treatment ($p<0.05$). DeCarlo et al. conducted a comprehensive study that examined the behavior of asymptomatic PAU over time. Their findings suggest a relatively benign natural history, with minimal growth and low rates of complications. Gifford et al. suggest that TEVAR may offer a viable option for select patients, particularly those at high risk of complications or disease progression. However, the long-term efficacy and safety of TEVAR remain uncertain and require further investigation.

DISCUSSION/CONCLUSION: Overall, the decision of when to intervene in asymptomatic aortic ulcers should be guided by a thorough assessment of patient-specific factors, including the size and characteristics of the ulcer, underlying comorbidities, and the risk of complications. Asymptomatic PAU patients may benefit from early surgical intervention, as it is associated with improved long-term survival. While surgical intervention, such as TEVAR, may be warranted in certain cases, conservative management remains a viable option for select patients. Further research is needed to refine treatment algorithms and improve outcomes for individuals with PAU.

P68 How to manage a carotid near occlusion?

Celso Nunes, Juliana Varino, Eduardo Silva, Miguel Silva, Leonor Baldaia, Luis Orelhas, Maria Carmona

Centro Hospitalar e Universitário de Coimbra

INTRODUCTION: Carotid near occlusion presents a complex clinical scenario in the realm of cerebrovascular disease

management. This condition poses challenges due to its potential progression to total occlusion and the associated risk of ischemic stroke. Efforts have been focusing on elucidating the optimal treatment strategies, spanning both medical and interventional approaches, to address this clinical challenge. We aim to outline the clinical characteristics and therapeutic options available for patients with carotid near occlusion.

METHODS: We performed a thorough electronic search of the literature using PubMed and Embase databases. We used the following combination of key words in our search strategy ICA critical stenosis, near total occlusion of ICA, ICA sub-occlusion, ICA pre-occlusive disease, pseudo-occlusion of the ICA, carotid string or slim sign AND management OR treatment. After duplicates removal, titles and abstracts screening and fully reading the remaining articles, we end up with 11 articles to compose our review. Only articles in English published in the last 10 years were included.

DISCUSSION/CONCLUSION: The studies by Gu et al., Moeersheck et al., and Radak et al. underscore the favorable outcomes associated with carotid endarterectomy (CEA), demonstrating significant reductions in stroke incidence and mortality rates compared to BMT alone in symptomatic patients. Notably, Gu et al. reported a stroke incidence of 2.4% in patients undergoing CEA compared to 6.8% in those receiving BMT. The studies by Gonzalez et al., Akkan et al., Gubta et al., Neves et al., Son et al., and Xu et al. elucidate the outcomes of CAS, with comparable efficacy to CEA in terms of stroke prevention and overall mortality. While both CEA and CAS demonstrate efficacy in reducing stroke risk compared to BMT, several challenges and considerations warrant attention. Limitations of the reviewed studies include heterogeneity among study populations, variations in follow-up periods, and potential selection biases inherent in retrospective study designs. Future research endeavors should focus on prospective, randomized controlled trials with long-term follow-up to elucidate the comparative effectiveness and safety profiles in the management of carotid near occlusion.

P69 Aberrant right subclavian artery: a case of upper limb ischaemia with literature review

Miguel Castro e Silva, Maria Carmona, Luís Orelhas, Leonor Baldaia, Celso Nunes, Eduardo Silva, Anabela Gonçalves, Gabriel Anacleto, João Alegrio, Manuel Fonseca

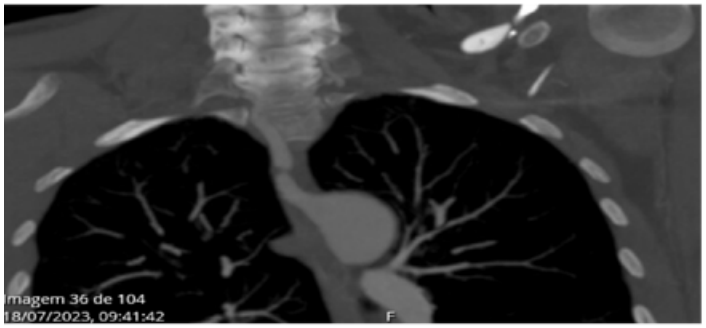
ULS Coimbra

AIM: This case report aims to present a rare etiology of upper limb ischemia resulting from an aberrant right subclavian artery, along with a comprehensive literature review of cases involving this anomaly.

METHODS: We describe the case of a 54-year-old woman presenting to the emergency department with acute right hand pain, cyanosis of the fingers, and absent radial, brachial, or axillary pulses. The patient had no previous symptoms. She had a significant medical history of type 2 diabetes and smoking. Further diagnostic workup, including computed tomography (CT) angiography, confirmed a significant stenosis approximately 2cm above the origin of the aberrant right subclavian artery. Treatment involved initiation of heparin therapy and the placement of a self-expandable stent in the affected artery.

RESULTS: Following treatment, the patient demonstrated restored radial pulse and normalization of capillary filling time. Additionally, we conducted a thorough review of the existing literature on aberrant subclavian artery anomalies, focusing on their clinical presentations, diagnostic modalities, and management strategies.

CONCLUSION: This case underscores the unique presentation of upper limb ischemia attributed to an aberrant right subclavian artery, highlighting the importance of considering rare vascular anomalies in clinical practice. Early identification and intervention can lead to successful restoration of arterial perfusion and mitigate the risk of irreversible ischemic complications. The absence of previous symptoms highlights the unpredictable nature of this anomaly, necessitating vigilance in clinical assessment and diagnostic workup. Additionally, our comprehensive literature review underscores the variability in clinical presentation and emphasizes the importance of tailored treatment approaches based on individual patient characteristics. Addressing modifiable risk factors, such as smoking and diabetes, remains paramount in preventing future vascular events in affected individuals.



DISCUSSION: The multidisciplinary approach to lower limb ulcer management is essential in addressing the diverse etiologies and complexities associated with these wounds. One of the critical aspects of this approach is the pivotal role of nursing in signaling patient care and implementing treatment protocols. Remote consultations enable seamless communication between healthcare professionals, allowing for timely collaboration and decision-making without the need for in-person consultations.

CONCLUSION: The multidisciplinary approach to lower limb ulcer management, supported by nursing expertise, technology integration, standardized protocols, and interdisciplinary collaboration, represents a paradigm shift in wound care delivery.

P70 The leg ulcer protocol

Joana Cardoso, Helena Fidalgo, Leonor Vasconcelos, Hugo Rodrigues

Hospital das Forças Armadas, HFAR, Pólo Lisboa

INTRODUCTION: Leg ulcers represent a clinical challenge. The etiology of lower limb ulcers can vary widely, from vascular conditions such as chronic venous insufficiency, peripheral arterial disease and diabetic neuropathy, traumatic, rheumatic, neoplastic, and other injuries. However, regardless of the underlying etiology, the primary goal of leg ulcer treatment is to promote wound healing, prevent complications, and improve the patient's quality of life. This typically involves a combination of wound care, compression therapy, treatment of underlying conditions, and in some cases, surgical intervention. While there are clinical guidelines and treatment protocols for specific conditions such as venous or arterial ulcers, the lack of specific guidance for the integrated management of lower limb ulcers can result in variable clinical practices and inconsistent outcomes. Specialized lower limb ulcer consultation should be organized to allow comprehensive patient assessment and appropriate treatment selection.

OBJECTIVE: The objective of this study is to publicize the specialized lower limb ulcer consultation and its treatment protocol, aiming to improve patient care and outcomes.
Results: The specialized lower limb ulcer consultation was organized in a multidisciplinary manner, involving various medical specialties such as vascular surgery, general surgery, family medicine, orthopedics, endocrinology, dermatology, rheumatology and hyperbaric medicine. This collaborative approach allows for comprehensive patient assessment and appropriate treatment selection. The consultation uses daily technology to facilitate efficient communication among healthcare team members and improve patient access to specialized care.