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SESSÃO PRÉMIO 1 — COMUNICAÇÕES ORAIS

CO1 / PREVALÊNCIA DE DOENÇA OCLUSIVA VISCERAL ASSINTOMÁTICA EM DOENTES ADMITIDOS POR ISQUEMIA CRÓNICA DOS MEMBROS INFERIORES

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Objectivo:
Avaliar a prevalência de doença visceral esplâncnica e renal em doentes admitidos por isquemia crónica dos membros inferiores (IC-MI).

Material e Métodos:
Estudo observacional (coorte-retrospetiva) que incluiu 100 doentes aleatórios admitidos por IC-MI entre 2015-2020, sem história de isquemia mesentérica, e que realizaram angio-TC abdominal como parte do estudo pré-operatório. A presença de doença ateromatosa esplâncnica (tronco celíaco, artéria mesentérica superior e inferior) ou renal foi definida como ligeira (estenose entre 30-50%), moderada (50-70%) e grave (>70% ou oclusão), medidas em AngioTC. Foi definido como *outcome* primário a prevalência de doença oclusiva esplâncnica/renal, e como *outcomes* secundários a avaliação de fatores preditivos de doença visceral. De forma a avaliar fatores associados à doença foram realizadas regressões logísticas incluindo as variáveis: doença aorto-ilíaca (DAP-AOI); tabagismo; diabetes mellitus; hipertensão arterial; doença coronária; doença renal crónica; DPOC e doença carotídea (estenose>50%).

Resultados:
A idade média dos doentes foi 68.5 anos (DP:9.7) e 77% eram homens. O diagnóstico de admissão foi claudicação incapacitante em 19% e isquemia com risco de perda de membro (ICRPM) em 81%(21% com dor em repouso e 60% com lesões tróficas). 75% dos doentes apresentavam DAP-AOI e 97% doença infra-inguinal. A prevalência de doença oclusiva esplâncnica (ligeira, moderada ou grave) foi 65%. A prevalência de doença grave em pelo menos uma artéria visceral foi 60%. Em 34% dos doentes, observou-se presença de doença grave em apenas 1 artéria visceral, 26% apresentavam envolvimento de 2 artérias viscerais e 22% apresentavam doença grave em todas as artérias viscerais.Em relação às artérias renais, 33% dos doentes apresentavam doença grave em pelo menos uma artéria renal e 20% apresentavam doença grave bilateral.Verificou-se uma associação significativa entre a presença de ICRPM e doença esplâncnica afetando 2 ramos viscerais,p=0.004.Após regressão logística, observou-se como fator associado à presença de doença grave 2 ramos viscerais a presença de DAP-AOI, odds ratio (OR):5.6 (p=0.007). Quando avaliada a presença de doença em pelo menos um vaso visceral, verificou-se uma associação em doentes com doença coronária, OR:4.0 (p=0.03) e com DAP-AOI, OR 5.6 (p=0.007). Em relação à doença das artérias renais, verificou-se uma associação significativa em doentes com doença carotídea, OR6.5 (p=0.004) e DAP-AOI, OR16.1(p=0.006).

Conclusão:
O presente estudo demonstrou uma prevalência elevada de doença oclusiva multi-visceral e renal em doentes com isquemia crónica dos membros inferiores. Observou-se ainda uma associação entre a presença de doença coronária e doença carotídea com a existência de doença oclusiva esplâncnica e renal, respetivamente.A compreensão do impacto clínico destas observações na avaliação e seguimento dos doentes com isquemia crónica dos membros inferiores necessita de investigação complementar.

CO2 / RECONSTRUÇÕES VASCULARES COMPLEXAS NO TRANSPLANTE RENAL DE DADOR VIVO E O SEU IMPACTO NOS RESULTADOS

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Introdução
A presença de múltiplos vasos renais, bem como a existência de vasos renais curtos é particularmente frequente no transplante renal de dador vivo. Pela complexidade vascular associada, a importância do maior envolvimento dos cirurgiões vasculares tem vindo a ser reconhecida nestes procedimentos.

Materiais e Métodos
Realizamos um estudo retrospetivo das reconstruções

vasculares realizadas no transplante renal de dador vivo ao longo de 10 anos. Foram avaliados o tempo de intervenção, complicações vasculares, necrose tubular aguda, função tardia do enxerto, níveis de creatinina sérica, episódios de rejeição do enxerto e taxas de sobrevida do enxerto e do doente. A análise estatística foi realizada com recurso ao SPSS V. 27 tendo sido considerado como significativo um valor de p <0,05.

Resultados

De janeiro de 2009 a dezembro de 2019, foram realizados 264 transplantes renais de dador vivo, 14 dos quais com incompatibilidade ABO. Do total de dadores, 56 enxertos (21%) apresentavam múltiplos vasos renais e em 3 rins foram identificados aneurismas saculares dos ramos da artéria renal (1%). A colheita do rim foi realizada por via laparoscópica em 216 doentes (82%).

Oitenta e seis dos enxertos (33%) necessitaram de reconstrução vascular em banca, nomeadamente reconstruções arteriais em 44 doentes (17%) e venosas em 17 doentes (6%). Em 25 doentes (10%) foram realizadas reconstruções das artérias e veias renais. As reconstruções arteriais foram mais frequentes em rins esquerdos (78%) e as reconstruções venosas em rins direitos (64%). No que diz respeito ao desenvolvimento de função tardia do enxerto ou necrose tubular aguda, episódios de rejeição e níveis de creatinina sérica pós-transplante a 1, 2 e 5 anos não houve diferenças significativas entre os transplantes com e sem necessidade de reconstrução vascular (p>0,05). A taxa de complicações vasculares nomeadamente, hemorragia com necessidade de reintervenção, trombose vascular e estenose arterial também não se mostrou significativamente diferente entre os dois grupos (p>0,05).

As taxas de sobrevida do enxerto aos 5 e 10 anos foram, respetivamente, de 93,0% e 90,6% no grupo submetido a reconstrução vascular, e de 97,7% e 93,3% no grupo sem necessidade de reconstrução. As taxas de sobrevida dos doentes a 5 anos foram de 97,6% e 98,3% nos grupos com e sem reconstrução vascular, respetivamente. Não se observaram diferenças significativas na sobrevida do doente e do rim transplantado entre os dois grupos.

Conclusão

Os resultados dos transplantes renais submetidos as reconstruções vasculares não são significativamente diferentes dos enxertos em que tal reconstrução não se apresenta necessária. A integração nas equipas de transplante renal de cirurgiões vasculares com adequada capacidade técnica para reconstruções vasculares, possibilita o transplante de rins com anatomias vasculares complexas permitindo aumentar assim o *pool* de dadores disponíveis para transplante renal de dador vivo.

Reconstruções vasculares realizadas no total e de acordo com a lateralidade do rim transplantado	
Arteriais	44 (51%)
Venosas	17 (20%)
Arteriais e venosas	25 (29%)
Rim direito	**(n=32)**
Arteriais	1 (4%)
Venosas	13 (46%)
Arteriais e venosas	14 (50%)
Rim esquerdo	**(n=232)**
Arteriais	43 (74%)
Venosas	4 (7%)
Arteriais e venosas	11 (19%)

Procedimentos de reconstrução arterial nos doentes com múltiplas artérias renais ou artérias renais curtas	
Reconstrução de 2 artérias renais em ostio único ("cano de espingarda")	13 (19%)
Anastomose de múltiplas artérias renais em *patch* venoso ("*neo-patch de Carrel*")	2 (3%)
Reconstrução de 2 artérias renais em ostio único e implantação em *patch* venoso	5 (7%)
Anastomose terminolateral de uma ou mais artérias renais ao tronco da artéria renal principal	10 (14%)
Prolongamento da artéria renal com VGS ou veia femoral em termino-terminal	25 (36%)*
Reconstrução de 2 artérias renais em ostio único ("cano de espingarda") e prolongamento com VGS ou veia femoral em termino-terminal	5 (7%)
Prolongamento da artéria renal principal com VGS em termino-terminal e implantação de artéria renal secundária em termino-lateral	5 (7%)
Anastomoses individualizadas de duas artérias renais na artéria ilíaca externa com prolongamento da artéria mais curta com VGS	2 (3%)
Aneurismectomia e aneurismorrafia em banca	3 (4%)*

*num dos casos foi realizada aneurismectomia e aneurismorrafia associadamente com o prolongamento da artéria renal com veia femoral

Procedimentos de reconstrução venosa nos doentes com múltiplas veias renais ou veias renais curtas	
Reconstrução de 2 veias renais em ostio único ("cano de espingarda")	1 (2%)
Venoplastia de alongamento com VGS espiralada, veia ovárica espiralada ou veia femoral	36 (86%)
Reconstrução de 2 veias renais em ostio único ("cano de espingarda") e venoplastia de alongamento com VGS espiralada ou veia femoral	4 (10%)
Anastomose termino-lateral de uma ou mais veias renais ao tronco da veia renal principal e venoplastia de alongamento com VGS espiralada	1 (2%)

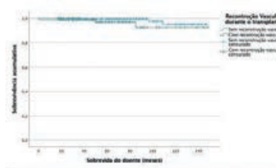

Fig 1. Análise de sobrevida dos doentes submetidos a transplante renal de dador vivo com e sem procedimentos de reconstrução vascular (p=0.185)

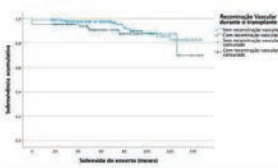

Fig 2. Análise de sobrevida do enxerto renal nos doentes submetidos a transplante renal de dador vivo com e sem procedimentos de reconstrução vascular (p=0.166)

CO3 / TRAUMATIC POPLITEAL ARTERY INJURY — A RARE LESION THAT CAN'T BE MISSED

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Introduction

Traumatic popliteal artery injury (PAI) is a rare clinical entity, but it is the most common cause of amputation in injured extremities.

The aim of this study was to report the incidence of PAI after knee trauma, therapeutic management and amputation rate.

Methods and material

ICD-10/ ICD-9 codes (S85.0/904.41; S83.1/836.5; S83.4; S83.5; S72,4/821.2; S82,1/823.0) were used to identify patients admitted with PAI and knee trauma at our tertiary center from 1/1/2010 to 31/5/2021. A descriptive analysis was realized using the SPSS program version27.

Results *(TABLE 1)*

At our center were admitted 9 patients with PAI (7 male, median age 39.0 years) and 535 with knee trauma (28 with knee dislocation and 507 with fracture close to knee).

The incidence of PAI after knee trauma was 1,5%, after knee dislocation was 17,9% and after fracture close to knee was 0,8%.

The mechanism of PAI was motorcycle accident in 4 patients; bicycle accident in 1; work accident with heavy

machinery in 1, a fall in 1, running over in 1 and an iatrogenic injury in 1 (during knee arthroplasty).
Open trauma was observed in 7 patients. 4 patients had severe soft tissue damage, 2 had venous injuries and 2 had major nerve disruptions.
The median ischemic time was 6,0 hours and median vascular surgical time was 2,4 hours.
Regarding vascular treatment, 8 patients were submitted to bypass surgery and 1 was treated conservatively. Therapeutic fasciotomies were performed in 3 patients and 4 patients were submitted to a plastic reconstructive surgery. No primary amputations were performed. A secondary major amputation was performed in 1 patient.
The mean hospital length of stay was 24,9 days. Mortality was 0%. 3 patients returned to their normal activity level and 6 were limited in their daily activity.

Table1- Descriptive analysis of 9 patients diagnosed with PAI	PAI (n=9)
Age, years - median+- IQA	39
Male - n (%)	7 (77.8)
Cause - n (%)	
Motorcycle accident	4 (44.4)
Bicycle accident	1 (11.1)
Work accident with heavy machinery	1 (11.1)
Running over	1 (11.1)
Fall	1 (11.1)
Iatrogenic injury	1 (11.1)
Other associated injuries - n (%)	
Venous injury	2 (22.2)
Knee dislocation	5 (55.6)
Knee fracture	4 (44.4)
Nerve injury	2 (22.2)
Severe soft tissue damage	4 (44.4)
Ischemia time (hours)- median+- IQA	6+-6
Vascular surgical time (hours) - median+- IQA	2.4+-4.2
Arterial surgery- n (%)*	
Bypass poplíteo-poplíteo with contralateral GSV	5 (62.5)
Bypass poplíteo-posterior tibial with contralateral GSV	2 (25)
Bypass femuro-posterior tibial with contralateral GSV	1 (12.5)
Associated venous surgery-n**	
Venous bypass	1
Venous ligation	1
Therapeutic fasciotomy - n (%)	3 (33.3)
Number of surgeries done per patient median+- SD	2+-1.75
Secondary amputation - n (%)	1 (11.1)
Length of stay - mean +- SD	24.9 +- 35.1
Mortality-n	0
Return to normal activity level- n (%)	3 (37.5)

*total of 8 patients
** total of 2 patients

Conclusion
The risk of PAI after knee dislocation is higher than after knee fracture (17,9% vs 0.8% in our study, and 3,4-8,2% vs 0,2 % in Swedish registration), so orthopedic surgeons must be aware of that increased risk, to avoid missing this diagnosis.
The amputation rate in our serie was lesser than the Swedish registration and the United States National Trauma Data Bank (11% vs 28% and 14,5%, respectively). However, it's still a high rate considering that it mostly affects a young and active population and only 37,5% return to a normal life.
A multidisciplinary approach is essential to decrease ischemia time and to promote a holistic treatment.

CO4 / TRATAMENTO DE PSEUDOANEURISMAS FEMORAIS COM TUMESCÊNCIA: UMA REVISÃO SISTEMÁTICA DA LITERATURA

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Introdução
Com o crescente uso das técnicas endovasculares, seja para fins diagnósticos ou terapêuticos, o pseudoaneurisma iatrogénico da artéria femoral é uma complicação cada vez mais frequente. A par deste aumento de incidência foram surgindo alternativas à cirurgia convencional para o seu tratamento, nomeadamente soluções percutâneas e endovasculares. Em 2003 foi descrito pela primeira vez um novo método minimamente invasivo, rápido e de baixo custo: a oclusão percutânea com tumescência através da injeção para-aneurismática eco-guiada de soro fisiológico.

Objetivo
Este trabalho tem como principal objetivo analisar a literatura existente e comparar os protocolos utilizados pelos diferentes serviços que testaram este procedimento, a fim de avaliar a sua eficácia, segurança e os *outcomes* a curto e longo-prazo, bem como a aplicabilidade deste procedimento nos serviços de Cirurgia Vascular.

Métodos
Foi realizada uma pesquisa nas bases de dados PubMed/MEDLINE e ClincalKey de forma a identificar todas as publicações focadas no tratamento de pseudoaneurismas femorais iatrogénicos com tumescência.

Resultados
Foram encontrados cinco trabalhos. Três consistem em séries de casos com a descrição do protocolo utilizado, das características dos pseudoaneurismas e resultados. Apenas um trabalho comparou a tumescência com outra técnica — a compressão eco-guiada. Um outro consistiu num estudo coorte em que foram analisadas diferentes características dos pseudoaneurismas por forma a perceber a sua relação com a taxa de sucesso e insucesso. Todos os trabalhos mostraram uma alta taxa de sucesso imediato e ás 24h pós-procedimento (entre 87,5% e 100%), à exceção de um trabalho que diferiu de todos os outros, uma vez que não foi utilizada anestesia local peri-procedimento. Neste trabalho verificou-se uma taxa de sucesso de apenas 43% ás 24h, apesar de uma taxa de sucesso de 100% imediatamente após o procedimento.

Conclusão
Comparando a injeção salina para-aneurismática com as outras opções, este método apresenta vantagens: é uma alternativa simples, rápida e barata que pode ser realizada em ambiente de enfermaria, está associada a alta taxa de sucesso, baixa taxa de recorrência e de complicações, segundo a literatura analisada. No entanto, são necessários estudos em larga escala e randomizados para comprovar o custo-benefício e custo-eficácia em relação aos outros métodos, principalmente em relação à injeção de trombina já que é o procedimento atualmente aceite como *gold*-standart no tratamento dos pseudoaneurismas femorais.

Palavras-chave:
Pseudoaneurima iatrogénico; pseudoaneurisma femoral; injeção salina para-aneurismal; tumescência

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CO5 / PERIOPERATIVE FACTORS ASSOCIATED WITH AORTIC GRAFT INFECTION. A CASE-CONTROL STUDY

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Introduction
Graft infections are one of the most serious complications in vascular surgery, with high mortality rates. Few studies addressed risk factors associated with a higher susceptibility to infection. The aim of this study is to identify peri-operative factors associated with the onset of aortic graft infections.

Methods
We designed a retrospective, case-control study from patients submitted to open aortic surgical repair between 2014 and 2019. Cases of aortic graft infection were defined according to the MAGIC criteria and matched to controls without proven infection. Demographic data, comorbidities, hospital complications and laboratory workups were assessed preoperatively and in the postoperative period after the index surgery. Cases were further characterized according to onset of infection and cultural exams. Potential predictors of graft infection were identified though univariate and multivariate analysis.

Results
We included 22 cases of graft infection (9,82%; CI 95% 5,9-13,7%) who were matched to 202 control patients. Patients in both groups were predominantly male (89,6% vs 83,4%; p 0,71) with similar mean ages (64,99 vs. 66,87; p 0.41). The onset of graft infection occurred after a median interval of 24 months (IQR 11-48). Patients with graft infection had longer hospital (36,4 vs 13,6 days; p < 0,001) and ICU stays (8,7 vs 2,4 days; p < 0,001). Gram-negative organisms were most frequently isolated in infected grafts (n=12).
Regarding laboratory workup, cases had significantly lower postoperative serum albumin levels (1,89 g/dL vs. 2,4 g/dL; p < 0,001). Patients with postoperative severe hypoalbuminemia (defined as serum albumin <2,5 g/dL) had approximately a fourfold increased risk of graft infection (OR 3,76; p 0,02). This difference was not identified preoperatively (p 0,12).
Alcohol abuse (OR 7,26; p 0,004), previous cancer diagnosis (OR 3,82; p 0,009), wound infection (OR 7,67; p < 0,001) and dehiscence (OR 10,45; p < 0,001), multiorgan failure (OR 5,16; p 0,028) or bowel ischemia (OR 7,13; p 0,002) or the need for reintervention following postoperative complications (OR 4,28; p 0,003) were significantly correlated to the onset of aortic graft infection. In an adjusted model, previous cancer diagnosis (OR 4,24, p 0,016), alcohol abuse (OR 10,49; p 0,004) and wound infection (OR 5,76; p 0,016) kept a significant association.

Conclusion
The risk of aortic graft infection seems to be higher in

patients with previous cancer diagnoses, alcohol abuse or postoperative complications such as wound infection. Postoperative hypoalbuminemia may be an important predictive factor for this complication.

CO6 / REVASCULARIZAÇÃO INFRAINGUINAL EM DOENTES COM RUNOFF INFRAPOPLÍTEO ÚNICO PELA ARTÉRIA PERONEAL NA ISQUÉMIA CRÓNICA COM LESÕES TRÓFICAS

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Introdução
A artéria peroneal encontra-se muitas vezes poupada em doentes com doença arterial periférica em estádios mais avançados, sendo por vezes a única artéria permeável no eixo infra-poplíteo. Existe uma perceção generalizada de que, não se tratando de um eixo direto até ao pé, a sua eficácia na revascularização dos doentes é inferior ao das restantes artérias tibiais. No entanto encontram-se descritos na literatura casos de doentes submetidos a revascularização endovascular cujo único influxo arterial para o pé era a artéria peroneal, com resultados não inferiores às restantes artérias tibiais. Neste estudo procuramos aferir a eficácia artéria peroneal como runoff único para o pé em doentes com isquémia grau IV pela classificação de Leriche-Fontaine.

Métodos
Este é um estudo retrospetivo que inclui todos os doentes submetidos a um primeiro procedimento de revascularização endovascular do sector femoro-poplíteo ou distal entre 2012 e 2019 e isquémia grau IV na classificação de Leriche-Fontaine à admissão. Os doentes foram divididos em dois grupos – grupo 1, cujos membros apresentavam apenas a artéria peroneal como runoff até ao pé no final do procedimento de revascularização, e o grupo 2, que incluiu todos os doentes que apresentavam pelo menos uma das artérias tibiais permeável até ao pé. Os dois grupos foram comparados relativamente aos fatores de risco, ao tempo de internamento e às taxas de amputação e mortalidade.

Resultados
Foram incluídos 189 indivíduos, 39 no grupo 1 e 150 no grupo 2. Relativamente aos factores de risco de cada grupo, não se observaram diferenças estatisticamente significativas na idade ou incidência de diabetes melitus, hipertensão arterial, dislipidémia ou tabagismo, com o grupo 1 a apresentar uma menor incidência de doentes hemodialisados (2,6% vs 17,2%, p=0,015). Não se observaram diferenças entre o tempo de internamento (8,97±16,2 vs 11,31±15,3, p=0,402), nas taxas de sobrevida livre de amputação *major* (78,5% aos 12 meses, 52,6% aos 60 meses para o grupo 1 vs 79,1% aos 12 meses, 60,3% aos 60 meses para o grupo 2, p=0,869), ou nas taxas de mortalidade (24,5% aos 12 meses, 49,1% aos 60 meses para o grupo 1 vs 26,6% aos 12 meses, 52,2% aos 60meses para o grupo 2, p=0,475).

Conclusão
os doentes que apresentavam apenas a artéria peroneal como runoff para o pé apresentaram taxas de amputação *major* e sobrevivência semelhantes aos restantes, sendo uma alternativa viável para tratamento de doentes com isquémia grau IV na classificação de Leriche-Fontaine à apresentação e cuja recuperação das artérias tibiais anterior e posterior não é possível.

CO7 / EVIDÊNCIA ATUAL DA PROTAMINA EM CIRURGIA CAROTÍDEA

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Introdução E Objetivos
A administração de heparina constitui um passo standardizado na cirurgia carotídea dada a redução de complicações tromboembólicas no período perioperatório. Esta prática não está livre de riscos visto que as complicações hemorrágicas estão associadas a um aumento de reintervenções. Historicamente, a protamina, enquanto agente capaz de reverter os efeitos anticoagulantes da heparina, tem gerado controvérsia pela alegada associação a trombose carotídea e AVC.
Este artigo tem como objetivo rever a literatura publicada sobre a reversão com protamina na cirurgia carotídea.

Métodos
Com recurso à plataforma Pubmed foram selecionados todos os artigos publicados desde janeiro de 2010 até à presente data tendo sido selecionados 10 artigos, onde se incluem duas meta-análises, uma revisão sistemática e seis estudos observacionais multicêntricos de larga escala. Procurou-se avaliar o risco de enfarte, AVC ou morte, bem como as complicações hemorrágicas com a administração de protamina.

Resultados
De entre os artigos selecionados, seis avaliaram o efeito da protamina durante endarterectomia carotídea, três no *stenting* carotídeo transfemoral e um no *stenting* transcarotídeo (TCAR).
Nos doentes submetidos a endarterectomia, todos os estudos demonstraram uma diminuição estatisticamente significativa na redução de complicações hemorrágicas nos doentes em que se administrou protamina, nomeadamente com redução nas reintervenções e na necessidade de transfusões, não tendo sido relatado em nenhum destes estudos uma diferença estatisticamente significativa na mortalidade, ocorrência de AVC ou enfarte. O único estudo que analisou a utilização da protamina no TCAR obteve resultados semelhantes aos da endarterectomia.
O uso de protamina no *stenting* carotídeo transfemoral, não demonstrou diferenças na incidência de AVC, enfarte, morte ou redução de complicações hemorrágicas em estudos observacionais, no entanto, relacionou-se a um aumento de AVC aos 30 dias numa revisão sistemática.
Analisando os doentes submetidos a reintervenção cirúrgica concluiu-se que independentemente do uso de protamina, houve um aumento estatisticamente significativo no enfarte, AVC e morte.

Conclusões
A reversão com protamina na cirurgia carotídea demonstrou-se eficaz e segura, à luz da evidência científica publicada na última década, não se associando a um aumento do número de eventos trombóticos e contribuindo para a diminuição das complicações hemorrágicas, sendo estas afirmações suportadas por meta-análises e estudos observacionais com grandes populações amostrais, contrariando a controvérsia relacionada com o uso de protamina resultante de estudos históricos com base em análises de amostras de pequenas dimensões ou na experiência da própria instituição. Reforça-se deste modo a importância da administração rotineira de protamina na abordagem carotídea.

SESSÃO PRÉMIO 2 - COMUNICAÇÕES ORAIS

CO8 / ANEURYSMAL DISEASE, AORTIC DISSECTION, MESENTERIC AND RENAL OCCLUSIVE DISEASE: A PREVALENCE STUDY IN A PORTUGUESE POPULATION

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1. CHULN

Introduction
Aneurysmal disease, aortic dissection and arterial occlusive disease share many risk factors, so both can be present in a single patient which leads to a challenging treatment. It's important to determine if there is a relation between these distinct entities so we can better manage these patients.
Aneurysmal disease may cause progressive symptoms due to expansion or thromboembolism or manifest suddenly through rupture which can be deadly in cases of thoracic or abdominal aortic aneurysms.
Aortic dissection is associated with high mortality and often requires specialized care, in the acute/subacute as in the chronic phases.
Mesenteric and renal arterial occlusive disease may be progressive or manifest suddenly in a form that can be deadly.
All these diseases can present as an acute events or as a chronic disfunction with high mortality and morbidity depending on the presentation.
For these reasons, it's important to perceive the prevalence of these entities in a population, establish survey programs and define intervention thresholds.
Therefore, we performed a population-based study on the presence of aorto-iliac aneurysms, mesenteric and renal occlusive disease.

Methods
Cross-sectional study based on retrospective analysis of random CTs performed during 2018 in our institution. The definition of aneurysm depended on the location: >50mm in the ascending aorta and aortic arch, >40mm in the descending and paravisceral aorta, >30mm in the infrarenal aorta and >20mm in the common iliac arteries. Mesenteric or renal occlusive arterial disease was defined as any stenosis >30% or occlusion of the celiac trunk, superior and inferior mesenteric arteries, and renal arteries. Those findings were adjusted for age and sex.

Results
The mean age of the population analyzed was 66 years old (SD 18; min-max 18-98) and 56.4% were male. A total of 490 CTs were analyzed, and of these 47% had thorax, 98% had abdominal and 96% had pelvic imaging. Results are shown in TABLE 1.
Prevalence of aneurysmal disease, mesenteric and renal arterial occlusive disease was greater in men aged between 50 and 75 years. Fortunately, aortic dissection is rare.

	Population							
	≤50years		50-75years		>75years			
Disease	Men (%)	Women (%)	Men (%)	Women (%)	Men (%)	Women (%)	n/Total	Percentage
Any aorto-iliac aneurysm	3 (0.6%)	5 (1%)	29 (5.9%)	10 (2%)	12 (2.4%)	7 (1.4%)	64/490	13.1%
Ascending aorta aneurysm	0 (0%)	0 (0%)	4 (1.7%)	1 (0.4%)	0 (0%)	1 (0.4%)	6/231	2.6%
Aortic arch aneurysm	0 (0%)	0 (0%)	1 (0.5%)	0 (0%)	0 (0%)	0 (0%)	1/196	0.5%
Descending aorta aneurysm	0 (0%)	0 (0%)	5 (2.2%)	1 (0.4%)	0 (0%)	0 (0%)	6/231	2.6%
Paravisceral aortic aneurysm	0 (0%)	1 (0.2%)	4 (0.8%)	4 (0.8%)	2 (0.4%)	1 (0.2%)	12/459	2.6%
Infrarenal aortic aneurysm	3 (0.6%)	4 (0.8%)	28 (5.8%)	10 (2.1%)	10 (2.1%)	6 (1.2%)	61/482	12.7%
Common iliac artery aneurysms	0 (0%)	1 (0.2%)	5 (1.1%)	1 (0.2%)	4 (0.8%)	2 (0.4%)	3/468	0.6%
Any mesenteric stenosis	2 (0.5%)	0 (0%)	22 (6.4%)	12 (3.5%)	17 (5%)	15 (4.4%)	68/342	19.9%
Any renal artery stenosis	0 (0%)	1 (0.3%)	24 (6.9%)	7 (2%)	13 (3.7%)	12 (3.4%)	57/349	16.3%
Any aortic dissection	1 (0.2%)	0 (0%)	3 (0.6%)	3 (0.6%)	0 (0%)	0 (0%)	7/490	1.4%

Table 1. *Prevalence of aneurysmal disease, aortic dissection and mesenteric and renal arterial occlusive disease categorized by age and sex.*

Conclusion

Aneurysmal disease, mesenteric and renal arterial occlusive disease are highly prevalent in the portuguese population, especially in the male population over 50 years old, which should motivate preventive measures and special care in this high risk population.

CO9 / ABORDAGEM AOS ENDOLEAKS TIPO II APÓS EVAR DA AORTA INFRA-RENAL – REVISÃO SISTEMÁTICA E META-ANÁLISE

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Introdução/objetivos

O tratamento dos aneurismas da aorta via endovascular tem-se tornado cada vez mais atrativo pela sua menor morbi-mortalidade peri-operatória. Porém, esta abordagem está associada a maior falência terapêutica e necessidade de reintervenção a longo prazo. Os *Endoleaks* tipo II (ELII) são uma das complicações mais frequentes e, apesar da sua história natural ainda não estar completamente esclarecida, são consideradas entidades relativamente benignas. Apesar de baixo,
o risco de rotura é uma realidade e a melhor abordagem desta complicação não é consensual e é motivo de discórdia entre a comunidade cientifica.
Face às incertezas relativas à gestão e tratamento dos *Endoleaks* tipo II, propomo-nos a realizar uma revisão sistemática com meta-análise das abordagens terapêuticas aos *Endoleaks* tipo II da Aorta infra-renal com o objetivo de avaliar o risco-benefício a curto e longo prazo de uma abordagem em detrimento de outra.

Material e métodos

Para o desenvolvimento deste trabalho foi realizada uma pesquisa na plataforma "PubMed" e a seleção dos artigos foi baseada na metodologia PRISMA. Dos 379 artigos resultantes da pesquisa inicial, 11 foram selecionados tendo em conta critérios de inclusão e exclusão pré-definidos. Com base nas principais abordagens descritas foram criados 3 grupos de comparação: Abordagem conservadora vs. Intervenção; Embolização Transarterial vs. Embolização Percutânea Direta do Saco e Embolização profilática (Embo-EVAR) vs. EVAR clássico. O *outcome* principal é a resolução do ETII durante o *follow-up*. As complicações diretamente relacionáveis com cada abordagem foram consideradas como *outcome* secundário.

Resultados

Após análises preliminar da embolização profilática obtiveram-se os seguintes resultados: RR= 1.90 (95% CI [1.14; 3.15]; Ztest = 2.48 (P = 0.01); I2 = 91%; Chi2 = 56.55
(P <0.05)), que se traduz numa diminuição de 90% do risco de desenvolver ELII. Contudo este benefício parece diminuir com o passar do tempo. Em doentes com ELII já estabelecido não se verificou uma vantagem clara no tratamento do *endoleak* quando comparado com uma abordagem conservadora (RR = 1.00; 95% CI [0.72;1,38]; I2= 69%; Z test= 0 (P=1,00)). Quando comparadas as técnicas entre si a embolização percutânea direta do saco parece ter vantagem relativamente à embolização transarterial embora também sem significado estatístico (RR=1,43; 95% CI [0,83;2,43]; Ztest=1,29 (P=0,20); I2=0%).

Conclusões

O Embo-EVAR parece diminuir de forma significativa o risco de desenvolver ELII em doentes selecionados, comparativamente com o EVAR clássico. Relativamente às restantes abordagens não há uma diferença estatisticamente significativa que nos permita inferir benefício de uma sobre as restantes.

CO10 / CONTRALATERAL CAROTID STENOSIS IS A PREDICTOR OF LONG-TERM ADVERSE EVENTS IN CAROTID ENDARTERECTOMY

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Contralateral carotid stenosis (clCS) has been described as a perioperative predictor of mortality after carotid endarterectomy (CEA). However, its predictive value on

long-term cardiovascular events remains controversial. The study aims to assess the potential role of clCS as a long-term predictor of major adverse cardiovascular events (MACE) in patients who underwent CEA. From January 2012 to July 2020, patients undergoing CEA under regional anesthesia for carotid stenosis in a tertiary care and referral center were eligible from a prospective database, and a post hoc analysis was performed. The primary outcome consisted in the occurrence of long-term MACE. Secondary outcomes included all-cause mortality, stroke, myocardial infarction, acute heart failure, and major adverse limb events. A total of 192 patients were enrolled. With a median 50 months follow-up, chronic kidney disease (CKD) (mean survival time (MST) 51.7 vs. 103.3, p<0.010) and peripheral artery disease (PAD) (MST 75.1 vs. 90.3, p=0.001) were associated with decreased survival time. After propensity score matching (PSM), CKD (MST 49.1 vs. 106.0, p=0.001) and PAD (MST 75.7 vs. 94.0, p=0.001) maintained this association. On multivariate Cox regression analysis, contralateral stenosis was associated with higher MACE (hazard ratio (HR) = 2.035; 95% CI: 1.113-3.722, p=0.021 and all-cause mortality (HR = 2.564; 95% CI: 1.276-5,152 p=0.008). After PSM, only all-cause mortality (HR 2.323; 95% CI: 0.993-5.431, p=0.052) maintained a significant association with clCS. On multivariable analysis, clCS (aHR 2.367; 95% CI: 1.174-4.771, p=0.016), age (aHR 1.039, 95% CI: 1.008-1.070), CKD (aHR 2.803; 95% CI: 1.409-5.575, p=0.003) and PAD (aHR 3.225, 95% CI: 1.695-6.137, p<0.001) were independently associated with increased all-cause mortality. Contrary to MACE, clCS is a strong predictor of long-term all-cause mortality after CEA. However, MACE risk may compromise CEA benefits by other competitive events. Therefore, further studies are needed to establish the role of clCS on postoperative events and on patients' specific assessments in order to determine the best medical treatment and easy access to surgical intervention.

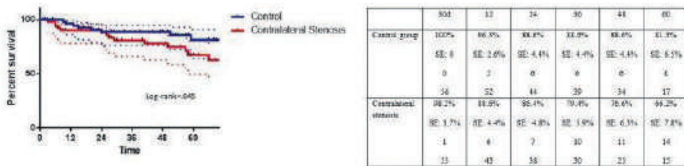

Figure 1: Kaplan-Meier curves of death after carotid endarterectomy according to control and contralateral stenosis group, after propensity score matching

MACE			
Age	1.039	1.010-1.069	**0.009**
Sex	0.641	0.261-3.185	0.331
BMI > 30 kg/m2	0.781	0.342-1.784	0.558
ClCS	1.614	0.900-2.885	0.108
CAD	1.631	0.850-3.129	0.141
PAD	2.852	1.586-5.128	**<0.001**
CKD	2.353	1.233-4.490	**0.009**
AF	0.579	0.171-1.958	0.379
Symptomatic CS	1.150	0.572-2-313	0.694
ALL-CAUSE MORTALITY			
Age	1.039	1.008-1.070	**0.014**
Sex	0.914	0.364-2.298	0.849
BMI > 30 kg/m2	0.737	0.282-1.927	0.534
clCS	2.367	1.174-4.771	**0.016**
CAD	1.019	0.472-2.198	0.962
PAD	3.225	1.695-6.137	**<0.001**
CKD	2.803	1.409-5.575	**0.003**
AF	0.630	0.170-2.339	0.490
Symptomatic CS	1.438	0.650-3.181	0.370

Table 1: Multivariable analyses of prognostic variables for MACE and all-cause mortality

Legend: aHR, Adjusted hazard ratio; AF, Atrial Fibrillation; BMI, Body Mass Index; CAD, Coronary artery disease; CI, Confidence interval; CKD, Chronic kidney disease (creatinine = 1.5 mg/dl); clCS, contralateral carotid stenosis; CS, carotid stenosis PAD, Peripheral artery disease;

CO11 / EVAR EXPLANT — A CASE SERIES

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Introduction:
Endovascular aneurysm repair (EVAR) offers significant advantages on aneurysm treatment, but the management of EVAR complications or failure often results in complex surgical approaches, sometimes requiring graft explant which remains a major challenge and one associated with a high morbidity and mortality. The purpose of this study is to review our contemporary institutional experience with EVAR explant.

Methods:
A prospective institutional administrative database was reviewed to identify patients who were subject of graft explant following standard infra-renal EVAR between 2011 and 2021. Follow-up was extracted from patient charts. Primary endpoint was perioperative mortality (30-days or in-hospital). Demographics, indications for explant, procedure details and outcomes were evaluated.

Results:
Over a 10-year period, between 2011 and 2021, there were 617 standard primary EVAR procedures performed in our institution for infrarenal aortic aneurysms.
During this period, we identified 13 patients submitted to EVAR explantation, two of which were referrals from other vascular centers. All patients were male and mean age at explant was 71 years (range 47-81). The primary EVAR procedure took place 29 months (range 0-72) before

explant. The primary indication for EVAR was ruptured aortic aneurysm in seven patients, and bifurcated devices were used in 11 patients. The majority of explant operations were emergent (6/13, three due to unstable aorto-enteric fistula (AEF), three due to rupture) or urgent (4/13, two stable AEF, two graft infections). In 3 cases, explant was elective (two type Ia endoleaks and one type II endoleak with sac expansion). None of the patients had been submitted to a previous attempt at endovascular salvage. In situ reconstruction was performed in eight patients, six of which with complete EVAR explantation and two with partial EVAR explantation. Two in situ reconstructions were made using superficial femoral veins, and the remaining used prosthetic grafts. Aortic ligation and extra-anatomic bypass were performed in five cases. The 30-day mortality was 54%, with 33% of mortality for elective repair, 50% for urgent repair, and 67% for emergent repair. Mean hospital stay was 48 days for survivors. Mean survival after discharge was 10 months.

Conclusion:
EVAR explant is a relatively rare and particularly complex procedure. When the reason for explant is graft infection and AEF, and when performed in an emergent context, it is a particularly morbid procedure with a dismal prognosis. As the number of endovascular aneurysm repairs increase, our global experience will become increasingly important in bettering our surgical and clinical outcomes.

CO12 / RISK PREDICTORS FOR PROTRACTED INTENSIVE CARE UNIT STAY AFTER ENDOVASCULAR AORTIC ANEURYSM REPAIR — DO ALL PATIENTS NEED AN ICU ADMISSION?

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1. CHVNG/E

Introduction:
COVID-19 pandemic brought us new challenges in the treatment of elective aortoiliac aneurysms. Throughout literature, numerous centers perform such procedures without routinely admitting patients to an ICU, and, instead, limit those admissions to the patients that effectively benefit from it. To overcome the increased ICU pressure due to COVID-19 and minimize postponing elective treatment to patients that might not benefit from ICU stay, our aim was to identify the subgroup of patients that benefited the most from ICU admission, as well as risk factors.

Methods:
Consecutive patients who underwent aorto-iliac and/or iliac endovascular aneurysm repair between January 2017 and April 2021 were reviewed. ICU stay longer than 48 hours post procedure was considered protracted. Primary outcome was the analysis of causes for discharged delay from ICU for patients with standard aorto-bi-iliac EVAR for AAA. Secondary outcomes included the same conclusions but for all the patients including those who underwent endovascular repair of more complex infra-renal AAA with involvement of the iliac arteries: occlusion of the internal iliac artery (IIA) and/or iliac branch device (IBD), and patients with isolated iliac aneurysms.

Results:
During the study period, 100 patients underwent infrarenal EVAR (75 patients had standard aorto-bi-iliac EVAR, 9 EVAR with occlusion of one IIA, 10 EVAR with IBD, 1 aortic tubular module, 3 iliac tubular modules, 2 isolated IBD). All of them were admitted to an ICU. 9.7% of the standard EVAR group and 9% of the more complex group had a length of stay (LOS) in ICU above 48h. No differences were found between patients who stayed less than 24h and less than 48h on ICU. After discharge from ICU, no readmissions existed. Mean procedure time was 2,36±0,70 hours on the standard EVAR group increasing to 2,53±0,91 hours when all patients were considered. On both groups, ASA 4 patients had their ICU stay significantly protracted when compared to ASA 2 patients ($p=0.043$ and $p=0.036$), but not ASA 3 ($p=0.773$ and $p=0.142$). Both the presence of COPD and cardiac disease (including coronary artery disease, arrythmia or cardiac failure) showed a tendency for prolonged ICU LOS ($p=0.060$ and $p=0{,}066$) on the standard EVAR group and reached significancy when all patients were analyzed ($p=0.001$ and $p=0{,}037$). There was an association between the need for blood transfusion and LOS ($p=0.006$ on the standard EVAR group, $p=0.001$ for all patients) as well as with intraoperative complications ($p<0{,}001$ and $p=0.003$, respectively). Approximately 70% of all accesses were percutaneous. Although no statistical association was found between type of access and protracted LOS ($p=0{,}578$), an association between the presence of access site complications and the ICU LOS was found on both groups ($p=0.003$ and $p=0.001$). 75% of intraoperative complications in standard EVAR group and 66% for all patients were related to access site (remainders were iliac rupture, dissection, embolization and inadvertent IIA occlusion).

Conclusion:
Patients with intraoperative complications, need for blood transfusion, COPD or cardiac disease seem to have

the most benefit for ICU stay after standard EVAR for elective treatment of AAA, conclusions that may extend to more complex aortoiliac procedures. Being the main intraoperative reason for protracted ICU LOS, access site choice and execution should be careful and individualized and might reduce the need for an ICU admission.

CO13 / PREDICTORS FOR DEVELOPMENT OF PERIPHERAL ARTERIAL DISEASE IN PANCREAS-KIDNEY TRANSPLANT PATIENTS AND IMPACT ON OUTCOMES

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Introduction

The risk of peripheral arterial disease (PAD) is significantly increased in patients with type 1 diabetes mellitus who have developed chronic kidney disease. Pancreas kidney transplantation seems to be a promising option for these patients, correcting both dysfunctions.

Objective

The aim of this study is to identify possible factors that influence the development and progression of PAD in pancreas-kidney transplanted patients and assess the outcomes of PAD on this population.

Methods

Retrospective observational study on a group of 229 patients with type I diabetes mellitus and end stage renal disease who underwent pancreas-kidney transplantation between May of 2000 and December of 2019. Demographic data, years of diabetes prior to transplant, months of dialysis prior to transplant, smoking, antihypertensive drugs intake, statins intake, cerebrovascular disease, myocardial ischemia, cholesterol levels and serum levels of creatinine, cystatin C, C-reactive protein and albumin were analyzed. Analysis of patients as well as kidney and pancreatic grafts survival was performed. Data were analyzed by SPSS version 27with significance at $p < 0.05$.

Results

Of the total of 216 patients included in the analysis with mean age of 46.01 ± 0.48 years, 32 patients (14,8%) developed symptomatic PAD and 23 patients (10,6%) critical limb ischemia requiring revascularization. The major amputation rate in this subgroup was 26,1%.

Patients with PAD were characterized by higher levels of LDL-C prior to transplant (p = 0.040), which were associated with a 1.011-fold higher risk of developing the disease. Higher levels of HbA1c 6 months and 3 years after transplant were also present among PAD patients (p = 0.033 and p = 0.022), associated with a respectively 1.512- fold and 1.334-fold higher risk of developing the disease. Patients with PAD were also characterized by higher levels of Cystatin C 5 years after transplant (p = 0.015) providing a 2.405-fold higher risk of developing the disease. Besides, myocardial ischemia was also more prevalent among patients with PAD (p = 0.037) inducing a 3.220-fold higher risk of developing the disease. Survival analysis demonstrated a trend towards lower survival and lower renal graft survival in patients with PAD.

Conclusion

Simultaneous pancreas-kidney transplantation is certainly the best option we currently have for patients with type 1 diabetes mellitus and end-stage renal disease. However, it does not solve all the problems, particularly this frailty that is PAD in this population which appears to have a negative impact on the outcomes of these patients

Table I. Characterization of post-operative complications and causes of graft loss

Post-operative complications, n		
Hemorrhage	22	
Infection	10	
Thrombosis and ischemia	8	
Intestinal Occlusion from surgical bandages	3	
Dehiscence of the surgical wound	2	
Pancreatitis	2	
Intestinal perforation	1	
Evisceration	1	
Urinary fistula	1	
Total	50	
Causes of graft failure, n	**Pancreas**	**Kidney**
Acute Rejection	4	1
Chronic Rejection	10	17
Vascular thrombosis	12	2
Hemorrhage	3	0
Infection	6	0
Non-Hodgkin lymphoma involving the graft	0	1
Unknown	7	3
Total	42	24

Table II. Characterization of the symptomatic peripheral arterial disease

Rutherford classification at presentation	**n (%)**
1-3	8 (25)
5	12 (37.5)
6	12 (37.5)
Limbs affected	**n (%)**
Bilateral	11 (34)
Unilateral	21 (66)
Right	*13 (62)*
Left	*8 (38)*
Anatomical pattern	**n (%)**
Aortoiliac	12 (38)
Femoropopliteal	14 (44)
Infrageniculate	16 (50)
Revascularization procedures	**n (%)**
Endovascular	26 (60)
Hybrid	6 (14)
Surgical	11 (26)
Total	43
Outcomes	**n (%)**
Healing	11 (38)
Minor amputation	12 (41)
Major amputation	6 (21)

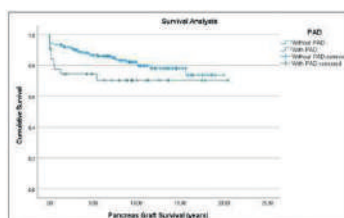

Fig. 1. Kaplan-Meier curve of pancreas graft survival by presence of PAD (p = 0.100)

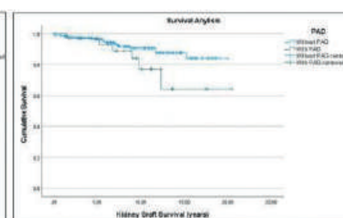

Fig. 2. Kaplan-Meier curve of kidney graft survival by presence of PAD (p = 0.300)

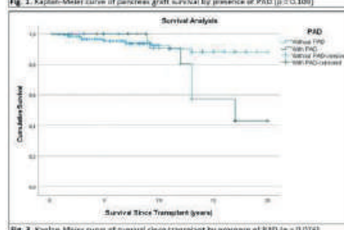

Fig. 3. Kaplan-Meier curve of survival since transplant by presence of PAD (p = 0.076)

CO14 / IMPORTANCE OF PERIOPERATIVE ANTIAGGREGATION AND ANTICOAGULATION IN HAEMATOMA AFTER CAROTID ENDARTERECTOMY: AN ANALYSIS WITH OVER 300 PATIENTS

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Introduction:
Recent studies analysed the efficacy of heparin reversal with protamine after completion of carotid endarterectomy. However, there is no data on pre-operative antiaggregant and anticoagulant medication and intra-operative heparin dose in post-operative haematoma. Our study aimed to analyse the impact of perioperative medication in haematoma after carotid endarterectomy.

Methods:
This was a retrospective study that included all the carotid endarterectomies from 2015 to 2019 with available data. Epidemiologic data, comorbidities, antiggregant and anticoagulant medication in the few days before surgery, intra-operative heparin and protamine doses, hemodynamic data in the 6 hours after surgery and post-operative hematoma and stroke rate were collected. Chi-square and Mann-Whitney U tests were used to evaluate variables and logistic regression to adjust variables to haemodynamic variations. Statistical significance was set at P-value 0.05.

Results:
304 patients were included. Mean age was 70.6±8 years-old and 83.6% were man. 44.7% had neurologic event in the past 6 months, but 71.1% had previous stroke. 49.3% of the patients had acetylsalicylic acid in the 5 days before surgery, 7.9% had clopidogrel, 9.5% other antiaggregant, 8.2% therapeutic LMWH, 8.6% acetylsalicylic acid + clopidogrel, 3.6% other double antiggregation and 10.9% stopped medication completely.
8.2% had post-operative local haematoma with need for extended hospitalisation time and 4.9% needed reoperation due to haematoma. Preferential surgery was partial eversion endarterectomy, only 2.6% had patch. 94.4% had general surgery. Mean clamping time was 13.2±5.9minutes. Intra-operative heparin and protamine dose was administered according to surgeon's preference; heparin reversal was used in 17.6% of the cases.
Haematoma developed in 5.4% of the patients having single antiaggregation (4.7% in acetylsalicylic acid group and 8.3% in clopidogrel), 23.7% in double antiaggregation, 10.7% in LMWH and 3% without medication (P=0.001). Heparin dose (P=0,69), protamine (P=0.49), intra-operative (P=0.42) and early post-operative maximum arterial pressure (P=0.1) had no statistical significance. Only coronary disease was associated with more haematoma (14.7% versus 6.4%, P=0.03) but this could be explained by increased double antiaggregation use in these patients (P<0.001).
Protamine use was not associated with increase post-operative stroke rate (P=0.85). When adjusting variables to post-operative arterial pressure, double antiaggregation still had significant influence in haematoma (P<0.001), while heparin/protamine dose did not (P=0.84 and P=0.52).

Conclusion:
Previous antiaggregant and anticoagulant medication is important in haematoma formation after carotid endarterectomy, while protamine use had no significance in our study. Stopping double antiaggregation should be pursued whenever possible to low complication rate.

SESSÃO PRÉMIO 3 - COMUNICAÇÕES ORAIS

CO15 / MEAN PLATELET VOLUME IS A PREDICTOR OF RESTENOSIS AFTER CAROTID ENDARTERECTOMY

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Introduction
Carotid restenosis following carotid endarterectomy (CEA) is a complication estimated to have a cumulative risk at 5-years up to 32%. Hematological parameters in the standard complete blood cell count (CBC) are emerging as potential biomarkers in several areas including vascular surgery, but their application in CEA is still limited. The aim of this study was to investigate the predictive ability of hematological markers for restenosis following CEA.

Methods
In a tertiary center, from January 2012 to January 2019, patients who underwent CEA with regional anaesthesia due to carotid stenosis were selected from a prospectively maintained cohort database. Patients were included if a preoperative CBC was available in the two weeks preceding CEA. Demographic and clinical data were collected. Multivariable analysis was performed alongside with propensity score matching (PSM) analysis, using the preoperative CEA parameters, in order to reduce confounding factors between categories.

Results
A total of 151 were included of which, 28 patients who developed carotid restenosis comprised the study group and the remaining 123 patients composed the control group. The mean age of the patients did not differ significantly between groups (70.25±8.05 vs. 70.32 ± 9.61 YO, P=0.973), neither did gender (male gender 89.3% vs. 78.9%, P=0.206). Concerning haematological parameters, although both platelet distribution width (PDW) (P=0.015) and mean platelet volume (MPV) (P=0.005) were found to be statistically significant upon univariate analysis, only MPV remained statistically significant within multivariable analysis (1.855, aHR [1.174-2.931], P=0.008), a result supported by PSM analysis (2.072, aHR [1.036-4.147], P=0.042).

Conclusion
MPV was able to predict restenosis two years after CEA. It can be incorporated into score calculations to identify patients at greater risk of restenosis since these patients could benefit from specific monitoring during follow-up. While results are promising, further studies are needed to understand the full potential of this biomarker.

CO16 / ISOLATED ABDOMINAL AORTIC DISSECTION – A DIFFERENT ANIMAL? – CASE SERIESY

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Introduction
Isolated abdominal aortic dissection (IAAD) is a relatively rare event and precise indications for treatment aren't clearly defined. Its natural history is not fully understood due to the rarity of the disease and to the fact that most surgeons have a low threshold to intervene in these patients. Open surgery represents the classical treatment but endovascular intervention has gained wide acceptance in most centers and is now the most frequently adopted treatment option. The largest series of treated patients are from Asian centers with the largest of them comprising only 33 cases whereas in western surgical centers the largest series contains only 21 patients.

Methods
Single center, retrospective, observational, study of patients with IAAD who were treated with open or endovascular surgery.

Results
We describe eight patients with IAAD who underwent treatment in our institution (four males and four females). Median age at presentation was 78 years and all patients were asymptomatic. Median aortic diameter at presentation was 30mm (14-85mm). All but one patient underwent endovascular treatment. Four patients were treated with bifurcated aortic endografts, two patients had a single stent-graft (iliac limbs of aortic endografts) implanted and one patient underwent a CERAB procedure for coexistent stenotic disease of the aortic bifurcation. There were no perioperative deaths. Median follow-up was 6,2 years (2 months-13 years). Late reintervention was needed in one patient, 8 years after initial surgery, due to a type 1 endoleak.

Conclusion
According to our experience, endovascular intervention represents a safe and durable treatment option in IAAD, however, long-term follow-up is mandatory. Larger studies with longer follow-ups are needed to understand this disease.

CO17 / 30-DAY COMPLICATION RATE AFTER CAROTID ENDARTERECTOMY VERSUS CAROTID STENTING IN SYMPTOMATIC AND ASYMPTOMATIC PATIENTS: A 5-YEAR ANALYSIS

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Introduction
Recent trials concluded that periprocedural stroke or death risk was higher in stenting. However, most studies involved only symptomatic patients and included multiple centres with few procedures both with and without cerebral protection devices. The objective of our study was to evaluate 30-day stroke, death rate, local and systemic complications after carotid endarterectomy and carotid stenting in both symptomatic and asymptomatic patients with significant carotid stenosis.

Methods
Our retrospective study included all patients submitted to carotid endarterectomy and stenting due to atherosclerotic disease in our centre from a 5-year period (2015 to 2019).
Epidemiologic data, comorbidities, mortality and 30-day complications were evaluated. T-test, multiple regression and logistic regression were used to compare groups and variables using SPSS software®. Statistical significance was set at P-value <0.05.

Results
179 stents and 310 carotid endarterectomies were performed. All stents were placed using cerebral protection devices.
78% of stenting patients and 84% of endarterectomised patients were male. Mean age was 72.4 and 70.6 years-old in stenting and surgery, respectively. Both groups were similar in comorbidities except for cardiac disease (19.6% previous myocardial infarction in stenting and 10.3% in surgical group) and symptomatic carotid disease (10.1% versus 43.9% event rate in past 6-months in stenting and endarterectomy group, respectively). Carotid stenosis degree and contralateral occlusion rate was similar.
Although not statistical significant (P=0.22), short-term mortality was higher in endarterectomy (2.9% versus 1.1% 30-day and 5.0% versus 5.5% 6-month mortality). On the other hand, 30-day stroke rate after carotid stenting was higher (5.6% versus 2.6%, P=0.08). Stroke rate was higher in stenting in patients with recent events (OR 14.0, P=0.001 for event in past 2-weeks; OR 7.49, P=0.004 for event past 6-months) and in patients with bovine and type 3 aortic arch (OR 16.7, P=0.002). Both mortality and periprocedural stroke rate were not age (P=0.63 and P=0.116) or contralateral carotid occlusion related (P=0.296).
Local complications were more common after endarterectomy (8.4% versus 6.7%, P=0.504) and 30-day systemic complications were more frequent after stenting (21.9% versus 12.3%, P<0.0001), with higher acute renal failure rate (14.0% versus 0%). When adjusted to patients comorbidities, endarterectomy patients had higher congestive heart failure and myocardial infarction rates (P=0.022). Periprocedure respiratory infection rate was similar.

Conclusion
According to our results, carotid endarterectomy should be preferred in symptomatic patients with significant carotid stenosis or bovine/type 3 aortic arch, since 30-day stroke rate was significantly inferior to stenting in that population. Carotid stenting should be considered in asymptomatic candidates with cardiac failure or recent myocardial infarction.

CO18 / GENERAL EVALUATION OF THE AORTA BY COMPUTED TOMOGRAPHY IN A LATIN POPULATION

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1. CHULN

Introduction
The normal diameter values of the aorta are controversial, dictate when aneurysmal disease develops and when it should be treated. They differ between populations implicating that the indications for treatment are not universal. The need arises for regional registries so that treatment may be personalized. However, there are no previous registries in a latin population.
Therefore, we performed a population based study on aortic diameters based on CTs measures.

Methods
Cross-sectional study based on retrospective analysis of random CTs performed during 2018 in the largest Portuguese hospital. Patients with aneurysms were excluded. Diameter was presented in millimeters using outer to outer wall measurements, in an anterior-posterior or transverse plane, perpendicular to the lumen center line. Diameter was adjusted for age and sex, and measured in the locations specified in TABLE 1. Age was categorized in 3 groups: ≤50; 50-75; >75. This project was submitted and approved by the Ethics Committee of our institution (ref336/20).

Results

The mean age of the population analyzed was 64 years old (SD 17; min-max 18-98) and 53.3% were male. A total of 396 CTs were analyzed, and of these 45% had thorax, 97% had abdominal and 83% had pelvic imaging. Mean aortic and iliac diameter are presented in TABLE 1 and were adjusted for age and sex. In all locations of the aorta, the diameter was significantly higher in men than in women, except for the ascending aorta in women under 50 (p<0.001). Diameters increased with age and were significant for all age groups and measured locations (p<0.001). We found intra and interobserver measures to be fairly agreeable (Cohen k: 0.21 and 0.24, respectively).

Conclusion

We defined a set of normal values at key aortic locations. Age and sex significantly influenced these measures, while the dimensions follow a similar pattern through the vessel regardless of these factors.

		Mean aortic diameter in milimeters (standard deviation)						
		≤50years		50-75years		>75years		
Aortic location	n	Men	Women	Men	Women	Men	Women	p-value
1) Proximal ascending aorta	177	28 (4)	29 (4)	35 (4)	31 (5)	36 (5)	36 (5)	<0.001
2) Mid ascending aorta	177	27 (4)	27 (2)	34 (4)	31 (4)	35 (3)	33 (4)	<0.001
3) Arch at innominate artery level	176	26 (3)	26 (3)	31 (3)	29 (3)	33 (4)	32 (4)	<0.001
4) Distal to the origin of the left common carotid artery	176	25 (3)	25 (3)	30 (3)	27 (2)	32 (4)	31 (4)	<0.001
5) Proximal descending aorta	181	23 (5)	22 (2)	26 (3)	24 (3)	30 (3)	27 (3)	<0.001
6) Mid descending aorta	377	22 (3)	20 (2)	26 (3)	24 (3)	27 (3)	26 (3)	<0.001
7) Distal thoracic descending aorta	385	21 (3)	20 (3)	26 (3)	23 (2)	27 (3)	25 (3)	<0.001
8) Supraceliac aorta	385	21 (3)	19 (2)	25 (3)	22 (3)	26 (3)	24 (3)	<0.001
9) Superior mesenteric artery origin	385	20 (3)	18 (2)	22 (3)	21 (3)	24 (3)	22 (3)	<0.001
10) Renal arteries origin	385	18 (3)	17 (2)	22 (2)	19 (3)	22 (3)	21 (2)	<0.001
11) Proximal infrarenal aorta	384	17 (3)	15 (2)	20 (3)	17 (2)	20 (3)	18 (3)	<0.001
12) Mid infrarenal aorta	384	17 (3)	15 (2)	19 (3)	17 (2)	20 (4)	17 (2)	<0.001
13) Distal infrarenal aorta	384	16 (3)	15 (2)	18 (3)	16 (2)	19 (3)	17 (2)	<0.001
14.a) Right common iliac artery	383	11 (2)	9 (1)	12 (2)	11 (2)	12 (2)	11 (2)	<0.001
14.b) Left common iliac artery	383	11 (2)	9 (1)	12 (2)	11 (2)	13(2)	11 (2)	<0.001

CO19 / SINGLE CENTER REAL-WORLD ANALYSIS OF THE USE OF ILIAC BRANCHED DEVICES FOR AORTO-ILIAC ANEURYSM REPAIR

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Introduction

Endovascular repair of aortic aneurysms is widely established. However, aorto-iliac aneurysms pose a challenge, specifically regarding distal sealing. A frequent approach is extending the iliac limb to the external iliac artery (EIA) with occlusion of the internal iliac artery (IIA), often with varying degree of pelvic ischemia causing significant morbidity. Iliac branched devices (IBD) allow for the creation of distal landing zones in the EIA and IIA, maintaining pelvic perfusion.

We performed a descriptive analysis and outcome evaluation of IBD use in a single center patient cohort.

Methods

An observational, descriptive, retrospective cohort analysis of all consecutive patients intended to treat with IBDs from Jan-2008 to Dec-2020 was performed. Technical success was defined as correct implantation of the IBD with confirmed patency of both EIA and IIA. We included all patients where at least one IBD was deployed, irrespective of additional procedures.

Statistical analysis was performed using STATA 16, for Mac.

Results

Of the initial 54 patients, 53 were included, (technical success 98,1%). Fifty-two were men (98.2%), mean age 73.5 years (SD 8.1). Mean aortic diameter was 56.4mm (SD 13.4), mean CIA aneurysm diameter 37.0mm (SD 12.7).

A total of 60 IBD's were performed (Cookâ Medical's ZBIS device), of which 5 as part of complex aortic treatment with fenestrated endografts, 32 EVAR with unilateral IBD, 7 EVAR with bilateral IBD, 6 EVAR with unilateral IBD and contralateral extension to the EIA with embolization of the IIA and 3 isolated IBD (for type 1B endoleaks following EVAR or isolated iliac aneurysm).

Peri-operative complications included acute kidney injury (AKI) (11,3% – 5/44), paraparesis and intestinal ischemia (1,9% each), one embolic intra-operatory stroke (1,9%) and one acute myocardial infarction (MI) (1,9%). Median follow-up was 9 months (IQR:16, 1-80months), during which 4,9% (2/42) developed type IB endoleaks, 4,9% (2/42) iliac aneurysm enlargement, 2,4% (1/42) limb kinking, 4,9% (2/42) limb occlusion, with a 7,14% (3/42) re-intervention rate. We found no association between limb patency and single, dual-antiplatelet treatment or anti-coagulation (p=0,6). There was no significative difference in AKI incidence between bilateral or unilateral IBD (irrespective of contra-lateral procedure). No in-hospital mortality was registered. There was one case of in-hospital death post-MI (1,9%), overall mortality 17% (9/53).

Conclusion

In this cohort we found that the most common complication is AKI, apparently not directly related to the technique itself. Follow-up complications were few and mainly associated to loss of distal seal or limb occlusion, but implying a considerable re-intervention rate.

CO20 / USE OF PACLITAXEL IN REAL-LIFE DATA IS NOT ASSOCIATED WITH REDUCED SURVIVAL BUT HAS LIMITED BENEFIT IN PREVENTING AMPUTATION

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Introduction

The results of a recent meta-analysis of randomized-controlled trials reported an increased risk of long-term mortality (2 and 5 years) in patients treated with paclitaxel-coated devices in symptomatic femoropopliteal arteries atherosclerotic lesions. However, real-life data on the subject are contradictory. The authors aim to evaluate the impact of paclitaxel-coated devices on long-term mortality and amputation, on a real-life cohort of consecutive patients treated throughout a 4-year period.

Methods

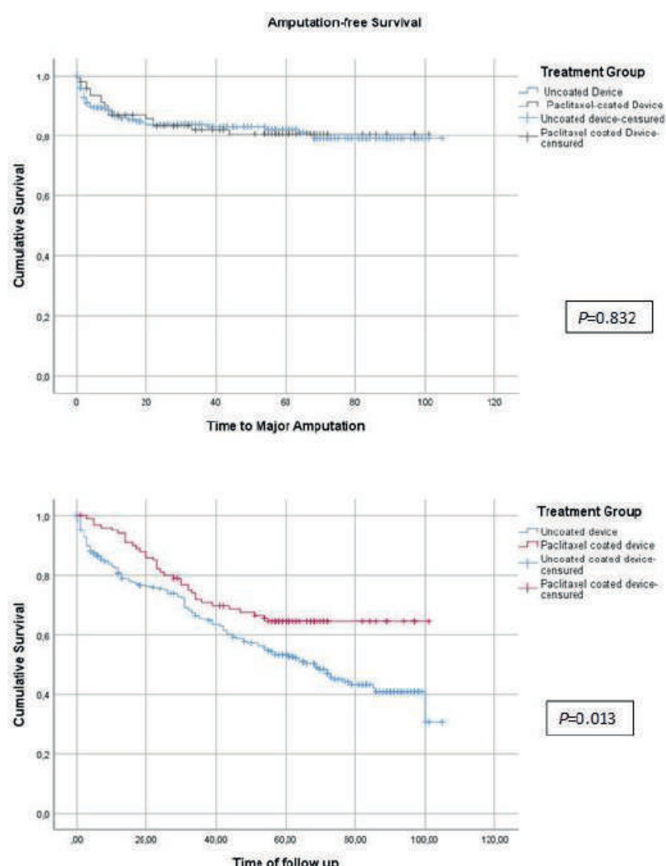
All patients treated for femoropopliteal atherosclerotic lesions using endovascular devices from January 2013 to December 2016 were included, irrespective of clinical presentation. The primary endpoint is overall survival. The secondary endpoint is freedom-from major amputation and amputation-free survival. Survival estimates were obtained using Kaplan Meier plots and a multivariable model was constructed to correct for relevant baseline differences.

Results

From 2013 to 2016, 351 patients were treated, 250 with uncoated and 101 with paclitaxel-coated devices. Patients treated with uncoated devices were significantly older (71 vs. 65y, p=.001), more often female (27% vs. 16%, p=.027) and with more severe degrees of ischemia (CLTI 84% vs. 74%, p=0.028). Median follow-up was 55 months (IQR 20-71months). Survival was significantly higher in patients treated with paclitaxel devices at 1, 2 and 5 years (79% vs. 92%, p=.004; 69% vs. 79%, p=.018; 50% vs 65%, p=.02; respectively). Freedom-from major amputation was comparable between groups at 1, 2 and 5 years (87% vs. 87.8%, p=.760; 83.9% vs. 84.3%, p=.807; 82% vs 82%, p=.970; respectively). Amputation-free survival estimates favored coated device group at 5 years (43% vs 57%, p=.016). After correction for relevant baseline differences (age, sex, smoking status, antiplatelet therapy and CLTI) on multivariable analysis, coated devices were not associated with statistically significant lower overall mortality (HR=.718, p=.098).

Conclusion

Our results do not confirm the findings of increased mortality with the use of paclitaxel-coated devices. Amputation rates were also not improved. Further investigation is needed to clarify if our findings are caused by unclear biases or reflect reality. For the time, our institutional data does not support withholding paclitaxel-coated devices to reduce mortality, but suggests that the benefit in preventing amputation is not significant.



CO21 / REINTERVENTION AFTER ABDOMINAL AORTIC ANEURYSM REPAIR – WHO TO BLAME?

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Introduction

Since it was introduced in 1991, endovascular aortic aneurysm repair (EVAR) emerged as a safe and effective treatment for abdominal aortic aneurysms. Even though early morbidity and mortality are lower after EVAR compared to open surgery, reinterventions are more common[(1,2)]. Nevertheless, questions remain as current NICE and ESVS guidelines have discrepant recommendations about what treatment should be used as first option[(3)].

Aim

The aim of the present study is to report the frequency and indications for reintervention after EVAR.

Methods

This is a retrospective cohort study including consecutive patients (n=215) who underwent EVAR in a tertiary hospital, between February 2009 and May 2019. Primary outcome was primary reintervention related to EVAR due to early and late complications, such as lower limb ischemia, lymphocele, compartment syndrome, wound dehiscence, endoleak, device migration, graft occlusion, aneurysm rupture, or due to disease progression. In a subgroup of patients (those operated from February/2009 to April/2015), sealing zone was assessed in the first computed tomographic angiography (CTA) after surgery and classified as adequate or inadequate, if > or <10mm, respectively (n=80).

Results

A total of 215 patients were treated with EVAR between February 2009 and May 2019 (TABLE 1). In total, forty-five reinterventions were performed in 26 patients (12%). Fifty percent (13/26) underwent one reintervention, whereas the remaining required more than one reintervention. Primary reinterventions are depicted in TABLE 2. The main reasons for reintervention were type 2 endoleak (28%), type 1 endoleak (22%), limb graft occlusion (16%) and lower limb ischemia (11%). At 12, 24 and 60 months after EVAR, 93.2% (SE 1.7%), 92.6% (SE 1.9%) and 85.6% (SE 3.0%), respectively, of patients did not need any reintervention. At 24 months, this figure was 96.7% (SE 2.3%) versus 87.7% (SE 8.2%) in patients with versus without adequate sealing zone (Lon Rank test = 0.055).

Conclusion

Long term outcomes are the Achilles heel of the endovascular AAA repair. Adequate follow up and reintervention are of paramount importance for EVAR to achieve its full potential.

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Patients' characteristics*	Nonintervention N=189	Intervention N=26	*P value*
Gender (male)	184 (97.4)	24 (92.3)	0.174
Age (years)	74 (7.0)*	72 (7.0)*	0.246
AAA (cm)	6.1 (1.3)*	6.2 (1.6)*	0.582
ASA			0.584
ASA 2	27 (27.6)	4 (23.5)	
ASA 3	60 (61.2)	9 (52.9)	
ASA 4	8 (8.2)	3 (17.60)	
Type of surgery			0.643
Percutaneous EVAR	93 (49.2)	10 (38.5)	
EVAR with femoral cutdown	88 (46.6)	15 (57.5)	
EVAR AUI w/wt crossover bypass	8 (4.2)	1 (3.8)	
Inadequate proximal or distal sealing zone	16/72 (22.2)	4/8 (50.0)	0.102

Table 1 - Comparison between intervention and non-intervention groups. Legend: AAA – abdominal aortic aneurysm; ASA – American Society of Anaesthesiology; AUI – aorto-uni-iliac; w – with, wt – without. *Presented as N (%) or mean and SD.

4.

Reason for reintervention	Type of surgery (n=26)
Type 1A endoleak	Endoanchors (n=1); Proximal extention of the coverage (n=1)
Type 1B endoleak	Distal extension of the iliac coverage (n=2)
Type 1B and 2A endoleaks	IMA embolization + distal extention of the iliac coverage (n=1)
Type 1B and 2B endoleak	Hypogastric embolization + distal extention of the iliac coverage (n=1)
Type 1A endoleak in a nelix graft	Embolization with coils and Onyx (n=1)
Type 2A endoleak	IMA embolization (attempt) (n=1); Laparoscopic IMA ligation (n=2)
Type 2B endoleak	Embolization of lumbar arteries (attempt) (n=1); Lumbar artery ligation (n=1)
Type 3 endoleak	IBE (n=1)
Device migration	Proximal extention of the aortic coverage (n=1)
Limb graft occlusion	Femorofemoral crossover bypass w/wt tromboembolectomy (n=2); Axillo-uni/bi-femoral bypass (n=2); Tromboembolectomy (n=1)
Lower limb ischemia	Tromboembolectomy (n=3); iliotibial bypass (n=1)
Iliac aneurysm	Endovascular iliac extensions (n=1); IBD (n=1)
Inguinal lymphocele	Debridement (n=1)

Table 2 - Reasons and types of surgery for primary reintervention.

SESSÃO PRÉMIO COMUNICAÇÃO - FLEBOLOGIA

CO22 / TREATMENT OF SEVERE SUPERFICIAL VENOUS INSUFFICIENCY IN VERY ELDERLY PATIENTS — IS VENASEAL A GOOD OPTION?

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Introduction

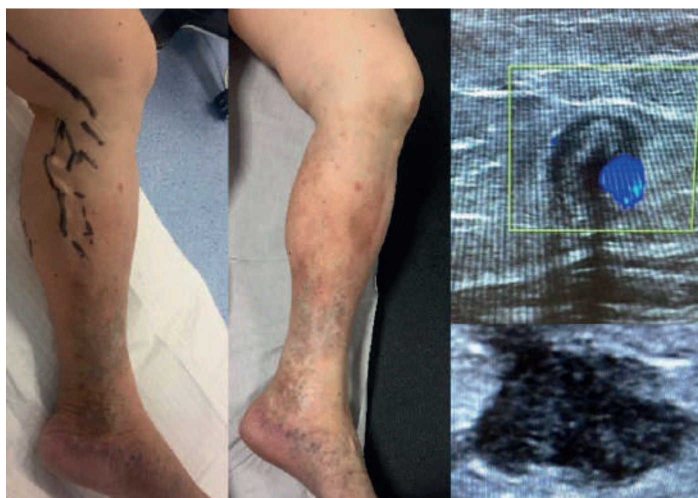
Chronic venous disease is a prevalent condition that worsen with age and is associated with poor QoL.
The treatment of varicose veins (VV) has multiple alternatives, and different practices across Europe.

Method, Material and Results

Report of 5 very old patients with severe venous insufficiency treated with VenaSeal in 2021.

Case 1:

A 86-year-old woman with untreated bilateral varicose veins (UBVV) and recurrent ulcers, refer severe pain in left leg and has bilateral great saphenous vein insufficiency (BIGSV).
An outpatient basis treatment (OPBT) with VenaSeal associated with phlebectomies was performed in the left side.
With 6 months of follow-up, she is asymptomatic with small areas of repermeabilization of the proximal trunk of GSV. (Image 1)

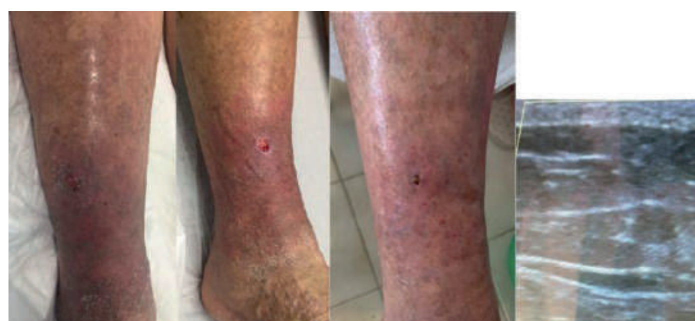


Case 2

A 85-year-old man with UBVV refer 2 episodes of varicorragia in his right leg and has BIGSV.
An OPBT with VenaSeal associated with VV ecosclerosis was performed in right side.
With 3-month follow-up, he is asymptomatic and has occlusion of the GSV's trunk.

Case 3

A 97-year-old woman with UBVV refer severe pain and ulceration in her left leg and has BIGSV.
An OPBT with VenaSeal associated with VV ecosclerosis was performed.
With 2-month follow-up, she is asymptomatic with a healed ulcer and has occlusion of GSV's trunk. (Image 2)



Case 4

A 95-year-old woman with UBVV refer bilateral severe pain and ulcers in the legs and has BIGSV. An OPBT treatment with VenaSeal was performed bilaterally.
With 1-month follow-up, she is asymptomatic with healed ulcers and has occlusion of the right GSV's trunk and areas of repermeabilization of left GSV's trunk.

Case 5:

An 84-year-old woman with UBVV, refer severe pain and pruritus in her left leg and has left IGSV. An OPBT with VenaSeal associated with phlebectomies was performed at left side.
With 1 month of follow-up, the patient is asymptomatic with occlusion of the proximal left GSV's trunk.

Conclusion

Treatment with VS is not considered at the 2015 Guidelines of the ESVS, however VeClose Study compared VenaSeal with radiofrequency ablation and reported equivalent improvement in symptoms scores and GSV occlusion.
VenaSeal treatment don't require use of elastic compression and allows return to routine activity immediately.
In our experience, VenaSeal resulted in complete resolution of the symptoms and ulcers in the short term. However, a complete occlusion of GSV was not observed in all cases, so a new protocol doses can be necessary.

CO23 / A RELAÇÃO DA DOENÇA VENOSA CRÓNICA AVANÇADA COM A PSICOPATOLOGIA E A QUALIDADE DE VIDA

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Introdução:
As consequências psicopatológicas e na qualidade de vida da DVC podem ser significativas, particularmente nos estadios mais avançados. As perturbações da ansiedade e do humor já estão frequentemente presentes no doente que procura o cirurgião vascular por DVC. O objetivo deste estudo foi identificar e caracterizar a psicopatologia na DVC e a sua relação com a qualidade de vida.

Métodos:
Estudo transversal que incluiu todos os doentes observados em primeira consulta de dois cirurgiões vasculares de um hospital universitário terciário, com o diagnóstico de DVC, de Dezembro de 2019 a Janeiro de 2021. Após realização da consulta, foram aplicados 5 questionários validados na língua portuguesa: EQ-5D (Euro quality of life – 5 Dimensions), EQVAS (Euro QoL visual analogue scale), CIVIQ20 (chronic venous insufficiency questionnaire), BAI (Beck Anxiety Inventory) e BDI (Beck's Depression Inventory). Os *endpoints* primários foram as taxas de perturbações da ansiedade e de humor, avaliadas nos questionários BAI e BDI, respetivamente.
Os *endpoints* secundários foram a qualidade de vida, avaliada nos questionários EQ-5D, EQVAS e CIVIQ20. Os achados foram correlacionados com a classe clínica (C) da classificação CEAP (clinical, etiological, anatomical and pathophysiological).

Resultados:
Foram incluídos 59 doentes. A idade mediana foi de 58 anos. 73% eram do sexo feminino. 20% realizava previamente medicação psiquiátrica, a maioria benzodiazepinas ou antidepressivos. A distribuição na classificação clínica CEAP foi a seguinte: C1 7%; C2 64%; C3 10%; C4 15%; C5 2%; C6 2%. O *score* CIVIQ20 mediano foi de 48 e a pontuação mediana na escala EQVAS foi de 75. O *score* mediano BAI foi 16, com 40% dos doentes a relatarem níveis moderados ou potencialmente preocupantes de ansiedade; o *score* mediano BDI foi 7, com 31% dos doentes a relatarem níveis pelo menos ligeiros de depressão.
Verificou-se uma correlação positiva entre a classe clínica CEAP e o *score* BAI ($p=0,049$) e o *score* BDI ($p=0,039$). Não se verificou correlação entre a classe clínica CEAP e a pontuação na EQVAS.
Doentes com *score* CIVIQ20 superior selecionaram pontuações inferiores na EQVAS ($p<0,001$). Verificou-se uma correlação positiva entre o *score* CIVIQ20 e o *score* BAI ($p<0,001$) e o *score* BDI ($p=0,003$).
Doentes com pior saúde percecionada na EQVAS apresentaram *scores* superiores de ansiedade ($p=0,009$) e depressão ($p<0,001$). Verificou-se uma correlação positiva entre o *score* BAI e o *score* BDI ($p=0,002$).

Conclusão:
As perturbações da ansiedade e do humor coexistem frequentemente e são prevalentes nos doentes com DVC sintomática. A relação entre sinais clínicos graves de DVC, qualidade de vida inferior e presença de psicopatologia foi demonstrada neste trabalho, que sugere a necessidade de uma abordagem psicológica adjuvante nos doentes com DVC.

CO24 / CLINICAL OUTCOMES AFTER VENA CAVA THROMBECTOMY FOR RENAL CELL CARCINOMA WITH VENOUS EXTENSION — EXPERIENCE IN OUR DEPARTMENT

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3. Hospital de Santa Marta

Introduction:
Renal cell carcinoma (RCC) frequently progress to involve the inferior vena cava (IVC) and even the right atrium (RA). Nephrectomy and eradication of the tumour thrombus, can extend survival and prevent symptoms of venous congestion. The authors evaluated the institutional experience of a tertiary center in the surgical management of RCC patients with tumour thrombi invading the IVC.

Methods:
Retrospective analysis of a single-center consecutive serie of patients with RCC and IVC tumor thrombi treated with surgery in our department between 2012 and 2021 was carried out. Demographic data, diagnostic and procedural characterisitics, clinical outcomes and survival analysis were examined.

Results:
In 18 patients, 33,3% (n=6) had smoking history, 77,8% (n=14) hypertension, 33,3% (n=6) diabetes and dyslipidaemia. Mean tumour size was 8.78±2.47cm (3-12cm), and 66.7% (n=12) of the cases were renal clear cell adenocarcinoma. On the basis of the Neves classification for IVC thrombus extension, 38.9% (n=7) of the patients had level I; 27.8% (n=5) level II; 16.7% (n=3) level III and 16.7% (n=3) level IV. The majority underwent radical nephrectomy, with cavotomy and vena cava thrombus removal followed by lateral venorrhaphy of the vena cava (88.9%,n=16). In one patient it was performed an infra-renal IVC ligation and in another patient it was performed a IVC interposition with PTFE and a protesic-renal bypass. In level IV, it was necessary combined open sternotomy and cardiac bypass for RA thrombus control. Mean total operative time was 3h4min±1h19min and median intraoperative blood loss was 600ml requiring a median blood cells transfusion of 3.5units (0,16) during the hospital stay.
Median ICU days was 2 days (0,14) and median hospital stay was 8 days (4,61). The mean preoperative serum creatinine was 1.23+0.38 mg/dL. After surgery, there was observed a mean decrease of serum creatinine of 0.001 mg/dL (p=.991) (paired T test), confirming the absence of renal impairment. Only one patient required reintervention in the post-operative course for splenectomy. Post-operative complications included one case of pulmonary embolism, pneumonia, acute coronary syndrome and two cases of temporary acute renal lesion. There was no 30-day mortality. Five patients underwent adjuvant chemotherapy. Median follow-up time was 19.5 months (6-46.2 months). The four-year overall survival rate was of 52.4% (FIGURE 1).

Conclusion:
For advanced RCC with tumour thrombus extension into the IVC, despite the expected poor prognosis, nephrectomy and eradication of the entire tumour thrombus, has low morbidity and can prolong patient survival, in line with the presented results.

CO25 / PREDICTIVE FACTORS OF VENOUS STENTING FAILURE: A SYSTEMATIC REVIEW

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Objective:
Venous stenting of iliocaval obstructions has become a more frequent procedure in the last two decades. In-stent stenosis and occlusion is a potential complication, being one of the main causes of symptoms recurrence and impact on quality of life. The aim of this review is to report on the impact of venous stent failure, as well on risk factors and management.

Methods:
A systematic review was conducted according to the recommendations of the PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses) statement.

Results:
After a Pubmed search, 12 studies (two prospective and 10 retrospective studies) were included in the analysis. A total of 1981 patients (34.1% male) and 2388 limbs (63.6% left side) were assessed. Mean age was 43.5 years (range 16-99). Indication for stenting included acute deep venous thrombosis (DVT) (4%), post-thrombotic syndrome (PTS) (18.8%) and non-thrombotic iliac vein lesions (NIVLs) (77.2%).
Regarding treatment, most patients were submitted to angioplasty and stenting only (87%). Associated catheter directed thrombolysis or mechanical thrombectomy was performed when indicated (8.4%), and the remaining had an AVF/endophlebetomy performed. Primary, primary assisted and secondary patency rates at one year varied between 68-100%, 79-90% and 85.8-100%, respectively. Reported anticoagulation duration after stenting was from 3-12 months, with no difference between direct oral anticoagulants and vitamin K antagonists, supplemented with antithrombotic therapy. In one study involving patients treated for NIVLs, no anticoagulation was prescribed and antithrombotic therapy was continued for three months. The Villalta score was reported in six studies, with a score improvement in all cases. Follow-up strategies included clinical and imagiological control with a mean follow-up of 19.7 months. Post-procedural stent re-stenosis was reported in 121 limbs (5.1%) and stent occlusion in 81 limbs (3.4%); the latter was distributed as follows: 11.1% acute DVT, 77.8% PTS and 11.1% NIVLs. A total of 186 re-interventions were performed in symptomatic patients. The prognostic factor most consistently associated with stent failure was post-thrombotic leg inflow veins. Other reported factors were incomplete thrombolysis and age younger than 40 years. Stent placement below the inguinal ligament, type of stent and anticoagulation regimen do not seem to affect stent patency.

Conclusions:
Regarding venous lesions of the lower limbs, a selective approach and planning should focus on identification of risk factors for stent failure. It is noteworthy that most stent occlusions occur in post-thrombotic limbs. Stent failure continued after 6 months, emphasizing the importance of an extended surveillance especially on these patients.

COMUNICAÇÕES ORAIS - RAPID PACE

CR26 / ALTERAÇÕES FARINGO-LARÍNGEAS PÓS-ENDARTERECTOMIA CAROTÍDEA: PROPOSTA DE PROTOCOLO

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1. CHVNG/E

Introdução
A endarterectomia carotídea é um procedimento cirúrgico que acarreta risco de lesão dos pares cranianos. Apesar de consideradas complicações incomuns, a percentagem pode atingir valores elevados quando a avaliação é realizada por especialistas dedicados. O presente protocolo propõe uma avaliação pré e pós-operatória sistematizada.

Objetivos
Proposta de "Protocolo de Avaliação do Doente submetido a Cirurgia Carotídea", bem como de uma folha de registo clínico específica.

Materiais e Métodos
Para a realização da proposta do protocolo foi feita uma revisão bibliográfica sobre o tema, complementada com a experiência adquirida no nosso Centro Hospitalar.

Resultados e Discussão
Na fase pré-operatória, a proposta realizada compreende a realização de um questionário e exame básico dos pares cranianos a todos os pacientes propostos para cirurgia. Nos doentes com antecedentes de cirurgia cervical prévia ou sintomas e/ou sinais sugestivos de alterações dos pares cranianos faringo-laríngeos, é proposta uma avaliação padronizada pelo médico otorrinolaringologista previamente à cirurgia.
Na fase pós-operatória, é realizada, ainda durante internamento, a mesma avaliação *standard*, e são referenciados para avaliação otorrinolaringológica os doentes que apresentem sintomas ou sinais de alterações não presentes previamente.

Conclusão
A avaliação dos sintomas e sinais de alarme deve ser padronizada em todos os doentes, de forma à deteção de alterações pós-operatórias, mesmo que *minor* e/ou temporárias. A avaliação endoscópica constitui uma observação compreensiva reservada no pré-operatório para os doentes com maior risco de alterações. No pós-operatório, os doentes com alterações reportadas devem realizar uma avaliação pelo otorrinolaringologista. A avaliação endoscópica universal não parece apresentar custo-benefício justificativo da sua implementação.

CR27 / EVIDENCE OF A PHYSICAL EXERCISE PROGRAM FOR PERIPHERAL ARTERY DISEASE: A LITERATURE REVIEW

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Introduction and Objectives
Peripheral arterial disease (PAD) is frequently underdiagnosed and undertreated. PAD is associated with a 2–3 fold increased rate of cardiovascular events and mortality. Patients with PAD also have greater functional impairment and faster functional decline. Exercise training improves PAD symptoms and is recommended as first line therapy. The goal of this review is provided evidence that support exercise therapy for patients with PAD.

Materials and Methods
Review of the literature.

Results
Walking is the most studied exercise modality and effective in improving cardiovascular parameters in patients with PAD. A meta-analysis concluded that supervised treadmill exercise was associated with 180m of improvement in maximal treadmill walking distance and 128m of improvement in pain-free walking distance, compared to a control group. Randomized trials demonstrated that home-based walking exercise interventions that incorporate behavioral change techniques, improves walking ability in PAD patients, too. Several randomized trials demonstrated that upper and lower limb ergometry also improve walking performance in people with PAD and intermittent claudication (a randomized study demonstrated that walking performance increased by 29% in the upper limb ergometry group and by 31% in the lower limb ergometry group).

Resistance exercise training for PAD also improve walking performance in patients with PAD. Overall, evidence suggests that walking exercise is a more effective exercise intervention than strength training, so it can be used as part of an exercise program and not in isolation.
Some studies demonstrated the effects of exercise training in DAP patients, beyond improvements in walking distance, namely on vascular function, parameters of inflammation, activated hemostasis and oxidative stress, and quality of life.

Conclusions
PAD is related to high morbidity and mortality, and decreased health-related quality of life. Several randomized trials demonstrated a supervised exercise program and home-based exercise that incorporates behavioral change, flexibility exercises, walking, and resistance exercise training significantly improved pain-free and maximal walking distance in patients with PAD.
Additionally, exercise training not only increases walking parameters, but also improves the cardiovascular risk profile by helping patients achieve better control of hypertension, hyperglycemia, obesity and dyslipidemia, thus further reducing cardiovascular risk.
In conclusion, many studies have shown that exercise training improves walking performance, cardiovascular parameters and quality of life in patients with PAD, and it should be encouraged and more often prescribed.

CR28 / AMPUTATION OF LOWER EXTREMIT IN COVID-19 PATIENTS: THE PERSPECTIVE OF PHYSYCAL MEDICINE AND REHABILITATION

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Introduction and Objectives
COVID-19 disease in addition to pulmonary manifestations, causes several syndromes. Acute lower extremities ischemia is a severe consequence of hypercoagulability, and the incidence of which is increased in patients with SARS-CoV-2 infection.
These disorders can cause amputation of lower limb.The aim of this work is demonstrating the particularities of a Physical Medicine and Rehabilitation program in an amputated patient as a consequence of SARS-CoV-2 infection.

Materials and Methods
Review of the literature and presentation of a clinical case.

Results
Case report
46-year-old man with a history of type 2 diabetes mellitus, diagnosed with pulmonary infection for SARS-CoV-2, experienced progressive bilateral lower limb critical ischemia, which resulted in left transtibial amputation and partial amputation of the right foot. The patient was then admitted to the rehabilitation program. Therapy was started for neuropathic pain, neurocognitive and nutritional support, with setting an appropriate protocol for a sacral pressure injury. The residual limb was then manually prepared for prosthetic positioning and a rehabilitation program for the improvement of functional independence was started.
Patients with severe manifestation of COVID-19 have been shown to have important alteration of the coagulation cascade. The physiopathology of the microvascular damage and thrombosis caused by SARS-CoV-2 infection appears to be related to the affinity of SARS-CoV-2 for the angiotensin 2 receptor, which is thought to be the viral entry point into human cells, and is expressed in type 2 alveolar epithelial cells and endothelial cells. In resulted, some patients with COVID-19 develop acute lower extremities ischemia, resulting in an amputation.
It is important starting a rehabilitation program for these patients, through maintenance of the elasticity of the residual limb, and prevention of post-operative contractures through selective training of the hamstrings, quadriceps, abductors, and adductors in the case of thigh amputation. Moreover, muscle-strengthening exercises, perceptive and coordination motor training, with aerobic training for cardiorespiratory reconditioning and balance recovery are necessary. Amputated COVID-19 patients undergo continuous evaluation of their nutritional status, because this improves the overall clinical status.
Patients are also trained to adapt to the postural changes and recovery of verticalization. In the early stage, the patient wears elastic bandage, to avoid the development of oedema and bottlenecks in the residual limb. When is possible, patient start walking training with its prosthesis.

Conclusions
Coagulation changes related to SARS-CoV-2 result from a series of thrombotic changes that complicate recovery from this devastating disease. The rehabilitation program of patients amputated due to COVID-19 is based on a multidisciplinary approach adjusted to the clinical and functional needs of disability.

CR29 / MYCOTIC ANEURYSMS — CASE SERIES AND LITERATURE REVIEW

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Introduction
Mycotic aneurisms (MA) are rare, constituting only 1-3% of all arterial aneurysms. Symptoms might be insidiousand nonspecific symptoms, nonetheless, it can also present as a surgical emergency with acute rupture and sepsis. Antibiotics alone are insufficiently and bring risk of persistent infection, rupture and even death. Given this, surgical repair with excision of the infected artery and revascularization via extra-anatomical or in situ bypass have been traditionally adopted. However, endovascular repair usually either with stent graft placement or embolization, have been used especially for high-risk patients for surgical repair. The authors aim to describe clinical presentation, surgical options and postoperative outcomes of patients operated due to mycotic pseudoaneurysms and compared them with the literature.

Methods
Patients who underwent intervention due to mycotic aneurysms in a tertiary university center, from January 2012 to January 2021 were included. Demographic, clinical, surgery and postoperative data were retrospectively collected. Additionally, a non-systematic review of the literature was performed.

Results
A total of six patients were retrieved, five of them male. Age ranged from 24 to 82 years old. The affected artery was the superficial femoral artery (SFA) in two cases, the infra-renal abdominal aorta (AA) in another two while the remaining were a popliteal artery and a common iliac artery. Literature describes the most common sites as the femoral artery, AA and intracranial arteries. Two cases presented as emergencies with a ruptured AA and a ruptured SFA. The former was the only one treated with endovascular intervention with the placement of an infra-renal endoprosthesis. Both the AA were infected with mycobacterium tuberculosis, while the remaining cases the identified microorganism was a Staphylococcus aureus, a Streptococcus gallolyticus, a Streptococcus agalactiae Gr. B and a Candida albicans. The most prevalent causative organism described is Staphylococcus aureus accounting with 28% of all cases followed by Streptococcus species (in 14% of the cases). Up to almost 15% of the cases have shown no positive cultures. Patency and limb salvage was achieved in all patients however, two patients died during follow-up, both due to short and mid-term infectious consequences.

Conclusion
Mycotic aneurysms remain a high-risk pathology. Antibiotherapy is imperative and should be started pre-operatively when possible and continued postoperatively. Surgical resection of the affected artery with revascularization remains the gold standard as it provides the most durable results. Multidisciplinary communication to ensure optimal outcome for both limb and patient is of extreme importance.

Keywords:
mycotic aneurysm; sepsis; endocarditis

CR30 / QUALIDADE DE VIDA EM DOENTES COM DOENÇA ARTERIAL PERIFÉRICA E CLAUDICAÇÃO INTERMITENTE

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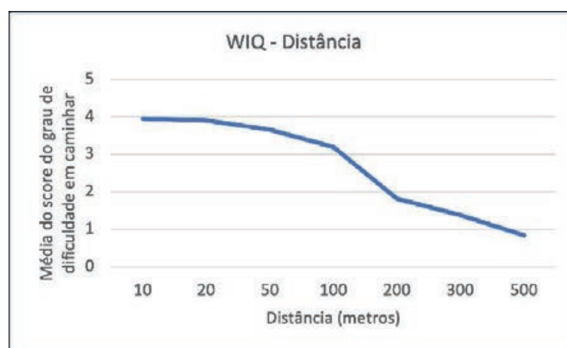
Introdução
Atualmente preocupamo-nos em avaliar os resultados de cuidados de saúde na perspetiva do doente, com base na forma como afetam o seu bem-estar físico e emocional. A qualidade de vida (QV) dos doentes com Doença Arterial Periférica (DAP) encontra-se inquestionavelmente afetada. Contudo, como estes doentes têm um conjunto variado de comorbilidades, estas concorrem, na gravidade e impacto, com a DAP. Por isso, nem sempre os resultados obtidos através de instrumentos de avaliação,

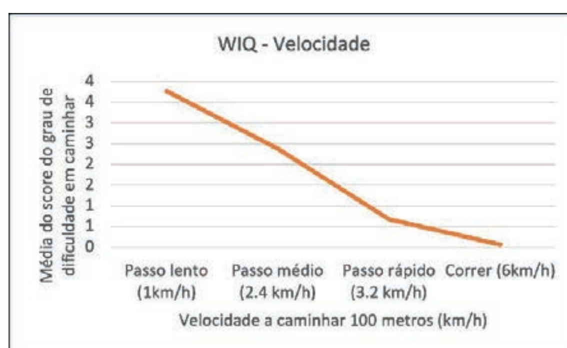
são fiéis à realidade e indicativos do grau de impacto e efeito da doença na QV do doente. Para além disso, a qualidade de vida é um constructo subjetivo e reflete a perceção dos indivíduos de que as suas necessidades estão satisfeitas. A questão que se coloca é: quais são as necessidades que os indivíduos valorizam e necessitam de satisfazer. A capacidade de adaptação do ser humano é de tal forma resiliente que, as dificuldades de mobilidade causadas pela CI, podem ser subvalorizadas por uns e sobrevalorizadas por outros.

Material e métodos
66 doentes com DAP e CI (Fontaine II) em acompanhamento na Consulta Externa de Angiologia e Cirurgia Vascular do CHUP, foram incluídos neste estudo, e sujeitos a uma avaliação clínica, física e psicológica. Foi utilizado um questionário sociodemográfico e clínico, o Walking Impairment Questionnaire (WIQ) e o VascuQoL.

Resultados
O valor médio encontrado no VascuQol foi de 15,42 (DP=3,50; variando entre 6 e 24) sugerindo que a amostra em estudo apresenta uma qualidade de vida associada à DAP superior à encontrada no estudo de referência de Larsen et al. (2017), onde foi encontrado um *score* médio de 12,7 (95%CI 12,2-13,3), numa amostra de doentes noruegueses muito semelhante à amostra do presente estudo. No nosso estudo, e quanto à perceção de Qualidade de Vida Geral, verificamos que quase metade da amostra (49%) perceciona ter uma saúde "razoável" e 31% perceciona ter uma saúde "boa". Como expectável, os doentes com maior QV apresentam menos dificuldades na distância de caminhada (r=.393, p<.01), velocidade de caminhada (r=.529, p<.01), e na subida de escadas (r=.517, p<.01).

Conclusões
Avaliar a QV na consulta revela-se uma ferramenta útil para monitorizar indicadores de sucesso e progresso, mas também se revela importante para compreender as necessidades do doente. O valor do questionário por si só não é suficiente para compreender o efeito e o impacto da doença na QV do doente, porque pode não captar as diferenças individuais mais subliminares, pode não ser fiel à realidade e não transparecer as dificuldades valorizadas pelos doentes. Contudo, se conhecermos melhor o doente e identificarmos as necessidades que valoriza e atribui significado, vamos compreender melhor doente e poder investir na melhoria da sua qualidade de vida.





CR31 / AORTIC SADDLE EMBOLISM: SHORT CASE SERIES AND REVASCULARIZATION TECHNIQUES

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Introduction and Objectives
Acute aortic occlusion is an uncommon life-threatening condition that may be caused by aortic saddle embolism (ASE). It is associated with high morbidity and mortality (up to 50%) despite prompt and effective treatment. ASE treatment is usually performed with bilateral embolectomy, via surgical femoral approach. Ischemia-reperfusion injury is a serious concern and may lead to compartment syndrome, renal injury and multiorgan failure.
This presentation reports the management of three patients with acute aortic saddle embolism..

Materials and methods
Retrospective analysis medical reports.

Results
Case 1: *70-year-old male admitted due to acute chest pain and lower limb paraesthesia and muscle weakness in the last 24 hours. The patient was unwell, tachycardic and*

sweating. Lower limbs were cold and pale, with moderate paraesthesia and mild motor deficit. No femoral pulses were detected. Atrial fibrillation was detected. CT angiography (CTA) exposed occlusion of the infrarenal aorta and common iliac arteries. Urgent surgery was proposed and bilateral aortoiliac embolectomy was performed via bilateral femoral approach. There were no surgery-related complications and the patient was discharged after cardiac pathology optimization.

Case 2: *95-year-old female, presented in the emergency department due to abnormal gait, lower limb numbness and paraesthesia for the last 5 days. The patient was agitated, with lower limb coolness and reversible cyanosis up to the thigh. No femoral pulses were detected. Deficits could not be evaluated due to agitation. Atrial fibrillation was detected. CTA exposed occlusion of the infrarenal aorta and iliac arteries. Urgent surgery was proposed and bilateral aortoiliac embolectomy was performed via bilateral femoral approach. After surgery the patient's clinical status evolved poorly and deceased 36 hours after surgery.*

Case 3: *71-year-old female, with 72-hour bilateral lower limb pain, coolness, numbness and weakness. Physical examination revealed partially reversible cyanosis and moderate sensitive and muscular deficit. CTA exposed occlusion of the infrarenal aorta and common iliac arteries. Urgent surgery was proposed and bilateral aortoiliac embolectomy was performed via bilateral femoral approach. Due to severe and prolonged ischaemia, venous drainage of both limbs and sequential limb perfusion was performed. Post-operative was complicated with left groin dehiscence and infection. The patient was discharged alive and well.*

Conclusion

ASE's early recognition and prompt treatment is essential to increase patient survival especially in the setting of severe neurologic deficit. Despite adequate revascularization, mortality is high and further strategies are needed to improve outcomes.

CR32 / SURTO COVID NO INTERNAMENTO DE ANGIOLOGIA E CIRURGIA VASCULAR — UMA ANÁLISE RETROSPECTIVA

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Introdução

Em Março de 2020, a Organização Mundial de Saúde reconheceu uma situação de pandemia devido ao covid-19. Na população geral infetada, vários estudos têm demonstrado os efeitos desta doença no leito vascular, na sua maioria eventos tromboembólicos. O objetivo deste estudo foi descrever a experiência inerente ao surto devido a sars-cov-2 que decorreu no serviço de Angiologia e Cirurgia Vascular, do Hospital de Santa Marta.

Métodos

Análise retrospetiva de todos os doentes infetados no serviço de Angiologia e Cirurgia Vascular do Hospital de Santa Marta, durante o período de 29 dezembro 2020 a 25 de janeiro de 2021. O *endpoint* primário foi taxa de mortalidade.
Os *endpoints* secundários foram taxa de amputação e tempo de internamento em enfermaria ou UCI.

Resultados

Durante o surto por sars-cov-2, 22 doentes foram infetados, dos quais 18 eram do sexo masculino, com idades entre 44-84 anos (média de 68 anos). À admissão, nenhum dos doentes possuía teste de deteção de sars-cov-2 positivo e 73% dos doentes foram admitidos pelo serviço de urgência. Relativamente à patologia que motivou o internamento dos doentes foi isquemia crítica grau IV (LF) em 59% dos doentes, isquemia aguda em 23%, falso aneurisma anastomótico em 9% e 1 doente foi internado por aneurisma poplíteo. Os doentes que tiveram alta estiveram em média 55dias internados. A taxa de mortalidade foi 27% (n=6), sendo que os óbitos se verificaram ao fim de 38 dias em média. A taxa de amputação *major* foi 43% (n=6). Três doentes (14%) desenvolveram complicações hemorrágicas (hematoma do psoas).

Conclusão

Existem poucos estudos que caracterizem os efeitos da covid-19 nos doentes com patologia do foro vascular. No entanto, a mortalidade referente aos doentes internados no nosso serviço foi muito superior à mortalidade referida na literatura da população infetada por covid-19.

Palavras-chave:
covid-19; cirurgia vascular; mortalidade; amputação

CR33 / THORACIC ENDOVASCULAR AORTIC REPAIR: SINGLE-CENTER EXPERIENCE

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Introduction

Thoracic aortic diseases are an important cause of death in the developed world. Thoracic endovascular aortic repair (TEVAR) has become the elected treatment for the majority of the descending thoracic aorta pathologies, owing to its association with decreased morbidity and mortality rates, particularly in those with elevated clinical risk. However, it is a recent procedure which still lacks information regarding long-term benefits, reintervention and late mortality. This study aims to assess patients' characteristics and to analyze outcomes, such as mortality, complications and need for reintervention, among patients who underwent TEVAR at our center over the last decade.

Methods

We performed a retrospective observational study of 54 patients who underwent TEVAR at Centro Hospitalar Universitário do Porto between January 2010 and August 2020. Demographics, preoperative, operative and postoperative variables were collected from patients' medical records, operative reports, laboratory and radiographic registries. Complications after index TEVAR, factors contributing to both mortality and reintervention were analyzed using a Cox proportional hazards models. Survival and reintervention-free survival were evaluated through Kaplan-Meier curves.

Results

A total of 54 patients with a median age of 68 years were included. Descending thoracic aorta and thoracoabdominal aortic aneurysms were the most common indication for TEVAR. Postoperative spinal cord ischemia (SCI) developed in 7.3% of the cases. Reintervention rate was 25.5%. Freedom from reintervention was 74.6% and 69% at 1- and 5-years, respectively. Endoleaks occurred in 27.3% of patients and were a significant predictor for reintervention (HR 3.94, P=0.02). The need for reintervention significantly increased mortality rate (P<0.05). Thirty-day all-cause mortality rate was 9.3%. Freedom from all-cause mortality was 73.8%, 65.5% and 46.5% at 1-, 3- and 5-years of follow-up.

Conclusions

Thirty-day mortality and SCI rates remains appreciable, yet in accordance with the literature. Endoleak development significantly increases the risk of reintervention, and reintervention itself significantly increases mortality risk in patients who undergo TEVAR, irrespective of the underlying aortic pathology.

CR34 / EPIDEMIOLOGIA E TENDÊNCIAS NA PREVENÇÃO TERCIÁRIA DA DOENÇA ARTERIAL PERIFÉRICA

Helena Fidalgo[1]; Ricardo André Correia[1]; Frederico Bastos Gonçalves[1]; Paulo Sousa[2]; Tiago Ribeiro[1]; Joana Cardoso[1]; Adriana Figueiredo[1]; Gonçalo Rodrigues[1]; Maria Emília Ferreira[1]

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Introdução

O tratamento farmacológico na DAP sintomática pretende diminuir o risco de eventos cardiovasculares e da morbilidade relacionada com o membro. O objetivo deste trabalho é determinar a taxa de prescrição de estatinas e antiagregação plaquetária (AP), em doentes submetidos a procedimentos de revascularização, avaliar a tendência temporal de prescrição e o seu impacto.

Métodos

Foram recolhidos dados de todos os doentes com diagnóstico de DAP sintomática, sem revascularização prévia, submetidos a um procedimento terapêutico vascular, num hospital central, entre Janeiro de 2017 e Dezembro de 2018. A prescrição de estatinas e de AP foi determinada à admissão hospitalar, à data de alta e aos 6 meses após alta. O *endpoint* principal foi sobrevida global. Os *endpoints* secundários foram amputação, restenose/oclusão e intervenções vasculares secundárias. Os grupos foram comparados de acordo com a prescrição de estatinas e AP.

Resultados

Foram incluídos 380 doentes, com idade média de 69 anos, 24% mulheres, 80% com apresentação de isquemia crónica com compromisso do membro (ICCM), 69% foram submetidos a procedimentos endovasculares e 8% a cirurgia híbrida. A taxa de prescrição de estatinas e AP

foi, respectivamente: 58% e 63% à admissão, 88% e 91% à data de alta, 88% e 87% aos 6 meses. À admissão, a taxa de prescrição de AP e estatinas foi superior em doentes com antecedentes de patologia cerebrovascular (p<0.001) e cardíaca (p=0.016). Observou-se menor taxa de prescrição de AP e estatinas em mulheres com antecedentes de patologia cardíaca (p=0.009), em doentes com apresentação de ICCM (p<0.001) e com doença infrapopliteia (GLASS) mais grave (p=0.005). À data de alta, os homens apresentaram maior taxa de prescrição de AP (p=0.02) e a dupla AP foi instituída preferencialmente nos doentes submetidos a procedimentos híbridos e endovasculares (p<0.001). A sobrevida dos doentes que estavam medicados com as 2 classes de fármacos ou sem nenhuma das classes, foi, respectivamente: 94±1% e 80±6% aos 6 meses após alta (p<0.001). Nos mesmos grupos, a taxa de amputação foi de 11±2% e 19±6% aos 6 meses após alta (p=0.064). Não houve diferenças significativas nas taxas de restenose/oclusão e de intervenção vascular secundária.

Conclusão

A implementação de terapêutica recomendada de prevenção terciária na DAP está associada a aumento da sobrevida. Apesar da taxa de prescrição ter aumentado após revascularização de membro inferior, existem doentes que permanecem sem terapêutica otimizada.

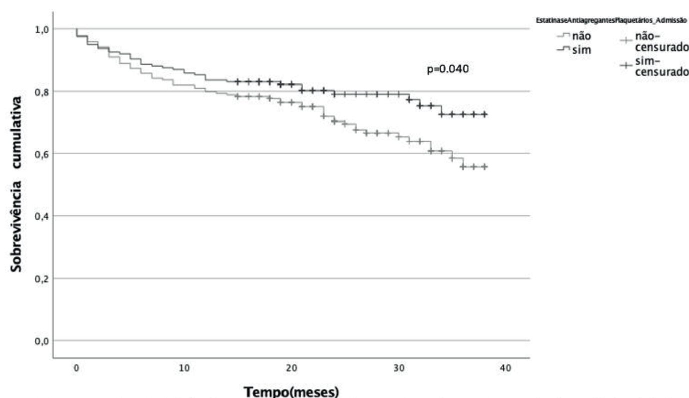

Figura 1. Curva de sobrevida (Kaplan-Meier) estimada dos doentes sob estatina e antiagregação plaquetária à admissão

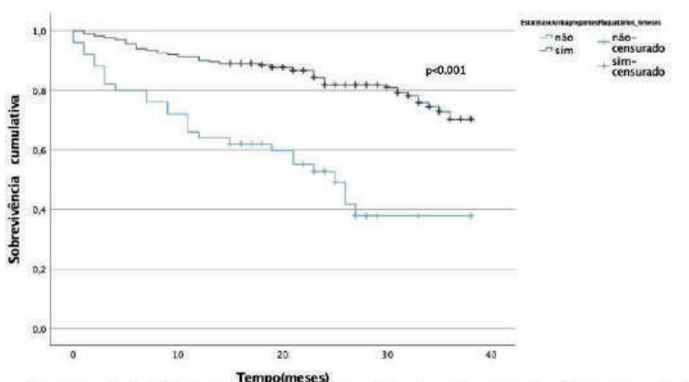

Figura 2. Curva de sobrevida (Kaplan-Meier) estimada dos doentes sob estatina e antiagregação plaquetária aos 6 meses após alta hospitalar

SESSÃO PRÉMIO - POSTER

P01 / RECONSTRUÇÃO EM Y DE OCLUSÃO CRÓNICA ILIO-CAVA

Sandrina Figueiredo Braga[1]; Celso Carrilho[1]; João Correia Simões[1]; Pedro Pinto Sousa[1]; Anita Santos[2]; Miguel Rocha[3]; Amílcar Mesquita[1]

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Introdução:

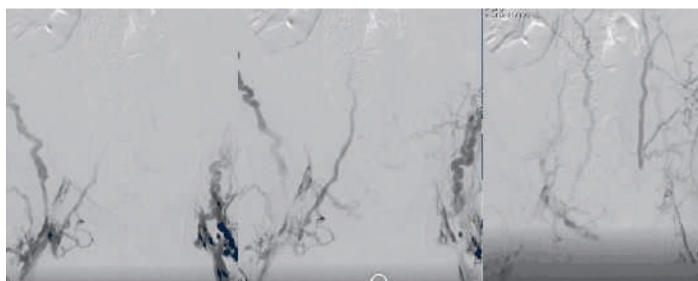
A agenesia da veia cava inferior (VCI) é uma patologia congénita rara, de etiologia controversa, com prevalência 0.005-1%. Em 90% dos casos, envolve um defeito supra-renal e só 6% dos casos envolve os segmentos renal e infra-renal. Associa-se a aumento do risco de Trombose Venosa Profunda (TVP) iliofemoral bilateral, causa frequente de Sindrome pós-trombótica (SPT) e de compromisso do retorno venoso cardíaco, com compromisso da tolerância ao exercício cardiopulmonar. Apresentamos um caso de trombose ilio-femoral bilateral em doente com agenesia da VCI, tratado num centro de referência europeu.

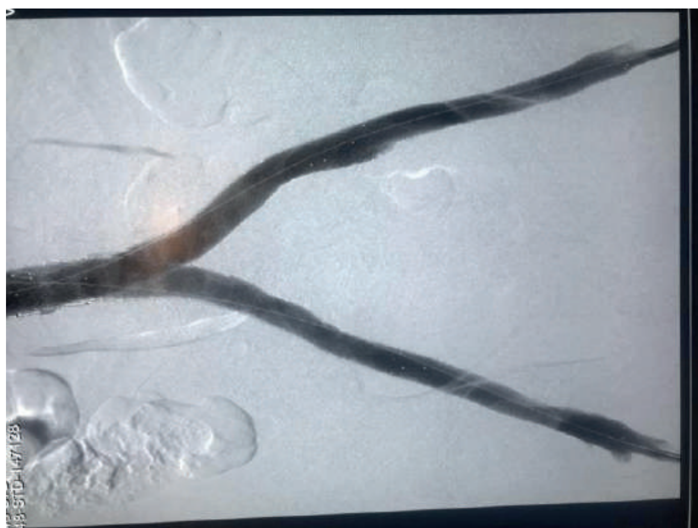
Caso Clínico:

Homem, 24 anos,recorreu pela 4ª vez ao SU a 18/9/2018 por dor lombar há 17 dias, sem edema dos membros inferiores. Antecedentes de viagem prolongada de carro. Realizou TC que revelou agenesia da VCI até às veias supra-hepáticas, marcada circulação venosa colateral ázigos lombar e peri-hilar renal bilateral e extensa trombose sub-aguda ilio-femoral bilateral, até à confluência das veias femorais profundas. Após discussão no Serviço e com outras instituições nacionais e estrangeiras, na perspectiva de intervenção, atendendo à dificuldade técnica antevista, foi proposto para tratamento conservador com hipocoagulação e meia elástica. Durante o seguimento, desenvolveu circulação venosa na parede abdominal, claudicação venosa e diminuição da tolerância ao exercício físico (SPT com *Score* Villalta 6 e Espiro-ergometria com uptake VO2max 49%). Após revisão da literatura, foi estabelecido contacto com o Hospital Europeu com maior experiência no tratamento desta patologia (62 casos) e o colega aceitou observar o doente. Através da plataforma da mobilidade de doentes do SNS para assistência médica no estrangeiro, o doente

foi referenciado à instituição e surpreendentemente tratado, com transmissão directa do procedimento no LINC 2019. Foi submetido a repermeabilização ilio-femoral e reconstrução em Y da VCI desde as veias supra-hepáticas às veias femorais, com *stents* Venovo (1 20*160, 2 16*160 e 2 14*140 mm), com excelente resultado imagiológico e clínico. Ocorreu remissão da circulação venosa abdominal, resolução da claudicação venosa e aumento da tolerância ao exercício, que mantém aos 29 meses de seguimento, sob hipocoagulação com apixabano e com total permeabilidade dos *stents*.

Conclusão:
A agenesia VCI é rara e cursa frequentemente com TVP ilio-femoral extensa. A raridade da patologia e a dificuldade técnica do procedimento endovascular travam a intervenção. Contudo, com a facilidade de discussão científica sem fronteiras e a gratuidade do SNS, não pode ser o conservadorismo o factor limitante do tratamento destes doentes, geralmente jovens e com SPT incapacitante.





P02 / IN SITU LESSER SAPHENOUS VEIN BYPASS THROUGH A POSTERIOR APPROACH: AN UNDERESTIMATED APPROACH FOR LIMB SALVAGE

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Introduction
In situ lesser saphenous vein (LSV) graft has been advocated in cases where target arteries are confined to the lower leg and the greater saphenous vein (GSV) is not available nor suitable, which can happen in up to 45% of patients. This often occurs in diabetic patients, whose occlusive disease pattern typically affects the tibioperoneal vessels, sparing the femoropopliteal segment. The in situ technique offers the potential advantages of decreasing surgical trauma to the vein and its vasa vasorum, better size-matching between vein and artery at the anastomoses, and improved hemodynamics.

Case Report
A 89 year-old male patient is followed at the outpatient clinic with a nonhealing ulcer of the first toe of the right foot with ~18 months of evolution. Medical history includes diabetes mellitus for 45 years, arterial hypertension, dyslipidemia and benign prostatic hyperplasia. He underwent plain balloon angioplasty of the superficial femoral artery with unsuccessful recanalization of the posterior tibial and peroneal arteries two months before. On physical examination he had good, palpable popliteal pulse, absent distal pulses and an unfavorable ulcer evolution. Transcutaneous oxygen at the base of the first toe measured 6 mmHg. Lower limb angiography revealed extensive anterior tibial and peroneal occlusion with foot run-off through a patent and mildly diseased distal segment of the posterior tibial artery. Ultrasonographic vein mapping revealed suitable, linear LSV in the right lower limb, with ~3mm diameter along its entire path to the ankle; both GSV were inadequate for bypass. A right limb retrogeniculate popliteal to distal posterior tibial artery was performed using in situ LSV through a posterior approach. Valvulotomy was performed with a 2.5 and 3.0mm valvulotome and intra-operative ultrasound helped identifying vein tributaries that required ligation after bypass construction. Final control angiography showed patent run-off to the foot. The patient had a favorable postoperative evolution with a patent bypass after 7 days; he will enroll on ultrasound surveillance follow-up after discharge.

Conclusion
In situ LSV is a safe and viable option conduit for popliteal to distal arteries bypasses. Vascular surgeons should be aware of the posterior approach, which simplifies and comfortably exposes the anatomic structures required for this surgery.

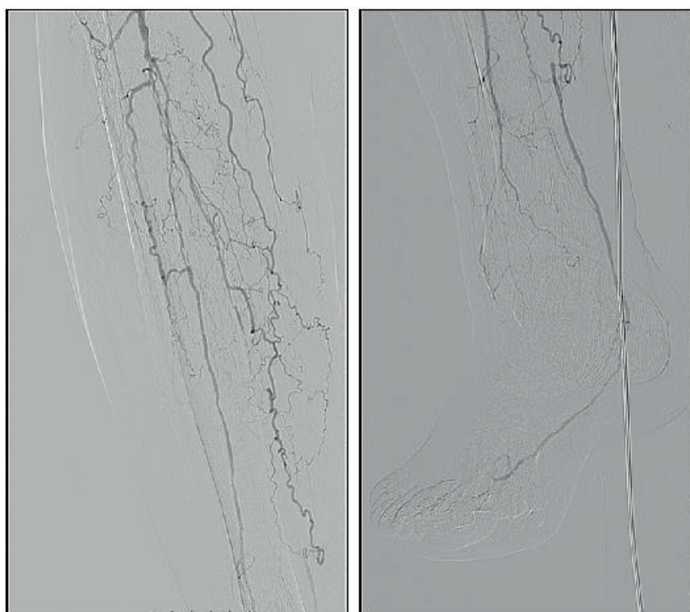

Figure 1. Right leg and foot angiogram revealing extensive occlusive disease with single run-off to the foot through a mildly diseased posterior tibial artery.

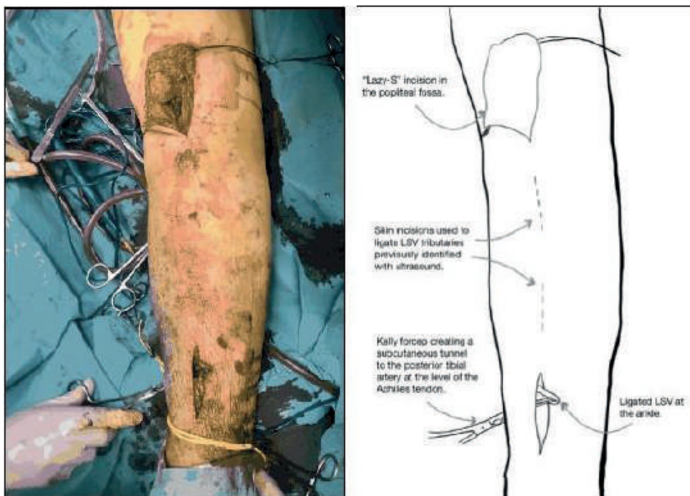

Figure 2. Proximal and distal exposures to control both the lesser saphenous vein (LSV) and the target arteries with the patient in prone position. In the right panel, the dashed lines represent the skin incisions used to ligate LSV tributaries identified with ultrasound after bypass anastomoses were completed.

P03 / AUTOTRANSPLANTE RENAL BILATERAL NA CORREÇÃO DE ANEURISMAS DOS RAMOS DAS ARTÉRIAS RENAIS

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Introdução
Os aneurismas da artéria renal e suas ramificações são entidades clínicas raras. Embora ainda exista alguma controvérsia em relação aos critérios de tratamento, é consensual o benefício da reparação em mulheres jovens em idade fértil.
Apresentamos um caso clínico de uma doente com múltiplos aneurismas renais bilaterais submetida a tratamento com recurso a autotransplante renal bilateral.

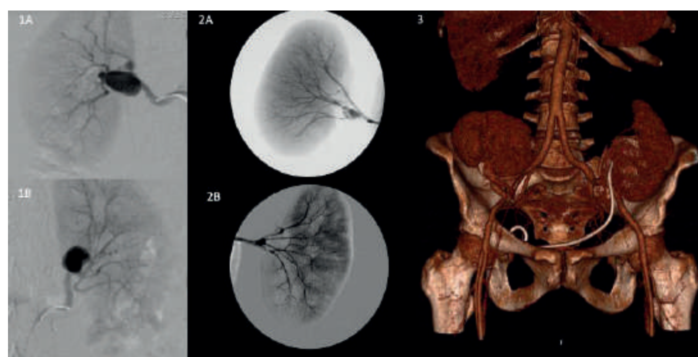
Materiais e métodos
Revisão dos dados do processo clínico eletrónico, tendo sido obtido o consentimento informado da doente.

Resultados
Mulher de 35 anos com antecedentes de hipertensão arterial (HTA) em tratamento com 3 classes de fármacos diferentes, diagnosticada com aneurismas das artérias renais bilateralmente durante a investigação de HTA secundária. Foi realizada angiografia renal bilateral que revelou a presença de aneurismas saculares com diâmetro superior a 2cm em ambas as artérias renais.
A doente foi submetida a tratamento cirúrgico com autotransplante renal tendo sido inicialmente tratado o rim direito. Foi realizada nefrectomia laparoscópica transperitoneal com um tempo de isquemia quente de 2 minutos e 25 segundos.
À visualização do rim em banca observava-se um volumoso aneurisma na bifurcação renal e outro aneurisma sacular de pequenas dimensões num ramo de primeira ordem. Foi realizada a correção ex-vivo dos aneurismas com aneurismectomia e aneurismorrafia com posterior controlo angiográfico que veio a revelar
a presença de um terceiro aneurisma noutro ramo, corrigido com aneurismorrafia.
A angiografia confirmou a permeabilidade de todos os ramos arteriais e a correção adequada dos aneurismas. O enxerto foi implantado na fossa ilíaca direita com anastomoses às artéria e veia ilíacas externas sem intercorrências.

Num segundo tempo foi realizado um procedimento idêntico à esquerda com um tempo de isquemia quente do rim de 2 minutos e 59 segundos. À inspeção observava-se um volumoso aneurisma na bifurcação da artéria renal e outro aneurisma de pequenas dimensões num dos ramos de primeira ordem, ambos corrigido com aneurismectomia e aneurismorrafia. O controlo angiográfico ex-vivo assegurou a preservação da patência das artérias do enxerto sem evidência de outros aneurismas. O rim foi implantado nos vasos ilíacos externos esquerdos sem intercorrências. No pós-operatório a doente realizou cintigrafia renal que confirmou a adequada função de ambos os rins. Aos 3 meses de seguimento a doente apresenta-se assintomática com valores de creatinina sérica de 0,86 mg/dL. No estudo anatomopatológico do aneurisma observou-se uma degenerescência mixóide da parede.

Conclusão

O autotransplante renal com reparação arterial ex-vivo é uma boa solução no tratamento de patologia aneurismática da artéria renal, nomeadamente, nos casos complexos com múltiplos aneurismas.



1. Angiografia a revelar volumosos aneurismas das artérias renais bilateralmente; 2. Angiografia de controlo (em banca) pós-correção ex-vivo dos aneurismas da artéria renal; 3. Angio-TC pós-operatório a revelar rins adequadamente implantados em ambas as fossas ilíacas.

P04 / TRATAMENTO HÍBRIDO NA ABORDAGEM DE UM ANEURISMA COMPLEXO DO EIXO SUBCLÁVIO-AXILO-UMERAL

Daniel Mendes[1]; Carolina Vaz[1]; Rui Machado[2]; Carlos Veiga[1]; Carlos Veterano[1]; Henrique Rocha[1]; João Castro[1]; Andreia Pinelo[1]; Henrique Almeida[1]; Rui de Almeida[2]

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Introdução

Os aneurismas das artérias dos membros superiores são extremamente raros, no entanto, o diagnóstico e tratamento adequado são fundamentais para evitar complicações graves. Apresentamos um caso complexo de um aneurisma arterial do eixo subclávio-axilo-umeral tratado adequadamente com recurso a uma estratégia híbrida.

Materiais e métodos

Revisão dos dados do processo clínico, tendo sido obtido o consentimento informado do doente.

Resultados

Homem de 59 anos com antecedentes de hipertensão arterial controlada e tabagismo dá entrada no serviço de urgência com queixas de dor intensa e parestesias na mão direita. Referia também dificuldade na mobilização dos 4º e 5º dedos ipsilaterais. Ao exame objetivo apresentava uma tumefação indolor na região do braço e uma tumefação pulsátil na região axilar, sem pulso umeral palpável e com défices sensitivos nos 4º e 5º dedos. O estudo ecográfico com doppler revelou um extenso aneurisma fusiforme das artérias axilar e umeral com trombose da artéria umeral. A artéria axilar apresentava-se parcialmente trombosada com fluxos de baixa amplitude e elevada resistência sugestivos de oclusão distal. Para uma adequada caracterização anatómica foi realizado estudo por angio-TC que demonstrou um aneurisma fusiforme da transição subclavio-axilo-umeral direita, com diâmetro máximo de 53 mm, extenso trombo mural e oclusão completa da sua vertente distal. Observava-se repermeabilização do segmento distal da artéria umeral, com calibre regular sem degenerescência aneurismática. O doente foi submetido a revascularização cirúrgica urgente com a realização de uma pontagem subclávio-umeral com veia grande safena (VGS) invertida por abordagem supraclavicular da artéria subclávia e tunelização infraclavicular. Intraoperatóriamente optou-se por não realizar a laqueação da artéria subclávia distal, pelo risco de comprometer a anastomose e pela iatrogenia que estaria associada a uma disseção cirúrgica mais alargada com risco de lesão nervosa. O doente apresentou boa evolução clínica com resolução completa das queixas tendo tido alta com antiagregação simples. Aos 6 meses de seguimento o doente mantinha-se sem queixas referidas à mão, no entanto apresentava desconforto na região axilar pela pulsatilidade do aneurisma da artéria axilar ainda permeável. Foi submetido a exclusão do aneurisma com a implantação de um *plug* vascular de 22mm imediatamente após a anastomose na artéria subclávia e embolização do saco aneurismático com recurso a múltiplos *coils* de 20mm com bom resultado.

Conclusão

Embora classicamente tratados por cirurgia convencional, o tratamento endovascular dos aneurismas das artérias do membro superior tem vindo a ganhar popularidade. A utilização de estratégias de tratamento híbridas permite um ótimo resultado nos casos mais complexos, permitindo reduzir a morbilidade da cirurgia convencional.

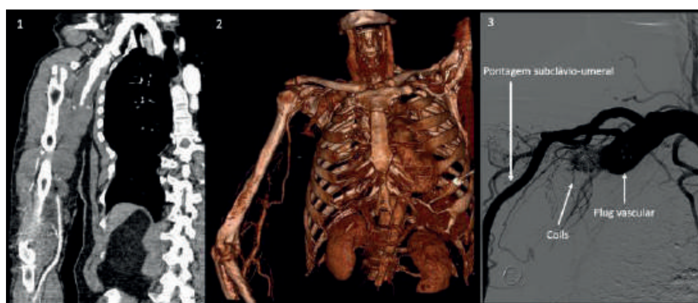

Fig 1. Angio-TC a revelar volumoso aneurisma axilo-umeral direito com trombose do segmento umeral; **Fig 2.** Angio-TC após revascularização com pontagem subclávio-umeral com veia grande safena invertida a revelar patência do segmento axilar do aneurisma; **Fig 3.** Angiografia a demonstrar exclusão do aneurisma com implantação de Plug vascular de 22mm e embolização do saco aneurismático com múltiplos coils de 20mm

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P05 / CHRONIC INTESTINAL ISCHEMIA: UNCOMMON CAUSES FOR A COMMON PRESENTATION?

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Introduction:

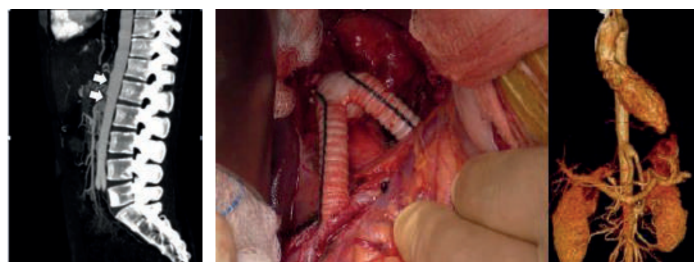
Chronic intestinal ischemia is responsible for approximately 1:1000000 hospital admissions in some epidemiologic series. This condition commonly affects individuals with known atherosclerotic lesion in other territories. Although typically found in female patients in their seventh decade with established arterial disease, chronic intestinal ischemia may manifest in other patients. In the latter, uncommon causes, such as vasculitis, are to be included in the differential diagnosis.

Case report:

We report the case of a 31-year-old male, with a known history of left lower limb and right upper limb intermittent claudication and smoking habits. He complained of severe postprandial upper abdominal pain in the previous year, with concomitant unvoluntary weight loss (6kg in the previous 6 months) and fear of eating. Physical examination was performed, and the abdomen was mildly tender when palpating the epigastrium, with no signs of peritonitis. Right radial pulse was diminished and left popliteal and distal pulses were abolished. Laboratory workup was unremarkable, except for an elevated SR (31mm; normal range < 10). A CT angiography was performed, showing occlusion of the celiac trunk and superior mesenteric artery at their origin (FIGURE 1). Serologic markers of autoimmunity or thrombophilia were all negative. The patient was admitted to the vascular surgery ward for etiological investigation and surgical repair of the mesenteric vessels. The case was discussed with fellow rheumatologists, who performed a supra-aortic arterial ultrasound showing thickening of the right temporal artery, as well as mild thickening of common carotid arteries bilaterally. The patient underwent an antegrade bypass from the supraceliac aorta to the superior mesenteric artery and common hepatic artery, with implantation of a bifurcated Dacron prothesis (FIGURE 2). A small fragment of the aorta and periaortic lymph node were collected for analysis. Anatomo-pathological results of the aortic fragment showed the presence of fibrous and muscular tissue with a mild, mixed inflammatory infiltrate. The lymph node appeared to have reactive inflammatory cells. The post-operative period was uneventful and the patient was discharged home 6 days after surgery.

Discussion:

Given the inflammatory nature of the collected fragment of aorta, the onset of intestinal ischemia at a young age and the remaining peripheral arterial manifestations, a presumptive diagnosis of Takayasu disease was formulated. This vasculitis is typically found in patients in their third decade and is associated with diffuse arterial thickening. Mesenteric manifestations in this condition can occur up to 30%.



P06 / ATYPICAL PRESENTATION OF A MYCOBACTERIUM POPLITEAL ABSCESS INVOLVING A POPLITEAL BYPASS SECONDARY TO INTRAVESICAL BCG THERAPY IN A BLADDER CA?

Fábio Pais[1]; Anita Quintas[1]; Teresa Garcia[1]; Joana Catarino[1]; Ricardo Correia[1]; Rita Bento[1]; Rita Garcia[1]; Rita Ferreira[1]; Frederico Bastos Gonçalves[1]; Emilia Ferreira[1]
1. Hospital Santa Marta

Introduction:
Bacillus Calmette-Guérin (BCG) Immunotherapy is a stabilished primary terapy for the carcinoma in situ of the bladder, that consists in the intravesical installation of a live attenuated strain of Mycobacterium. Tuberculosis, in rare cases, it has extrapulmonary involvement. In vascular surgery, though rarely, there have been reports of primary mycotic aneurysms due to Mycobacterium. However, an atypical presentation of a mycobacterium abscess involving a popliteal aneurysm treated with a popliteal bypass, and secondary to intravescial BCG was not yet, to the best knowledge of the authors, described in the literature.

Methods:
It is presented the diagnostic approach and treatment management of a patient with a mycobacterium abscess involving a popliteal aneurysm treated with a popliteal bypass, after vesical BCG immunotherapy in a bladder cancer.

Results:
The patient was a 72 years-old man, with a prior medical history of diabetes, hypertension, chronic lymphocytic leukemia and exclusion of a popliteal artery aneurism with a popliteal-popliteal bypass through a posterior approach using a reversed great saphenous vein. Five years later, the patient had a severe swelling and pain in the popliteal fossa with acute onset of 1-2 weeks. Recently, the patient had been treated for a carcinoma of the bladder with the use of intravesical BCG. The Angio-CT had shown a collection near the bypass graft. The patient was admitted in our department and performed an abscess incision and drainage surgery in the popliteal space and the aneurysmatic sac, with samples collected for microbiology and histopathology processment. The Ziehl-Neelen stain was positive for acid-fast bacteria and mycobacterial culture was positive for Mycobacterium tuberculosis complex – BCG confirmed by genotyping. Prompt treatment with four antibiotics regime was initiated (isoniazid, rifampicine, etambutol and pyrazinamide). At 9 month of follow-up the patient had new swelling of the popliteal fossa, and a cutaneous fistula developed. A surgical reapproach of abscess and aneurysm sac was necessary and it was performed a new debridement along with off-label topical instillation of streptomycin and rifampicin. In the last appointment, at 12 months of follow-up, the patient is assymptomatic and without further swelling or collections, and still under full antibiotic regime.

Conclusion:
Intravesical BCG immunotherapy for bladder cancer can be a potencial source for extrapulmonary tuberculosis, as in the atypical reported case that affected a popliteal aneurysm sac and bypass. This kind of infections spread locally, are usually indolent and replase, requiring longterm antibiotic regime and reinterventions

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P07 / ON-TABLE ZENITH CE FENESTRATED STENT GRAFT MODIFICATION FOR THE TREATMENT OF DELAYED TYPE IA ENDOLEAK

Fabio Pais[1]; Anita Quintas[1]; Joana Catarino[1]; Ricardo Correia[1]; Rita Garcia[1]; Rita Bento[1]; Rita Ferreira[1]; Gonçalo Alves[1]; Emilia Ferreira[1]
1. Hospital Santa Marta

Introduction:
Delayed type Ia endoleaks are often associated with proximal extension of the aneurysmal degeneration to the juxtarenal aortic segment. Endovascular treatment of type Ia endoleaks secondary to aortic neck dilatation can raise many technical challenges related to the previous implanted stent graft.

Methods:
It is presented the endovascular treatment of a delayed type Ia endoleak using a physician-modified Zenith® fenestrated stent graft and two parallel aortic covered stents

Results:
The patient was a 84-years old man, with a past medical history of atrial fibrillation, acute ischemic stroke, hypertension and dyslipidemia, that initially underwent an EVAR for a 5.5.cm infrarenal AAA with a TREO Bolton® endograft. After 3 years of follow-up, the Angio-CT scan showed a delayed type Ia endoleak secondary to aortic neck dilatation with significant growth of the aneurysmatic sac. It was planned an endovascular proximal extension with a fenestrated cuff but the short distance from the renal arteries to the previous EVAR bifurcation unenable the implantation of a standard Zenith® CE Fenestrated Stent Graft. To overcome this challenge, it was planned

an on-TABLE modification of the fenestrated stent graft (Zenith® CE with 2 renal fenestration and 1 scallop) by cutting the distal aortic stent.
Under general anaesthesia, the fenestrated endograft was partially deployed on-table, the distal stent was cut with thermocautery, and the device was resheathed. The fenestrated cuff was implanted in the standard fashion with target vessel catheterization and renal stenting. Two aortic covered stents (Aortic Begraft Bentley® 18mm) were implanted inside each iliac limb of the previous EVAR and sealed proximally in a parallel graft configuration on the fenestrated cuff.
The final completion angiogram demonstrated perfusion of bilateral renal arteries, resolution of IA and without further endoleaks, as well perfusion of both hypogastric arteries. At two months of follow up, the patient remains asymptomatic and the angio-CT scan showed resolution of type Ia endoleak but the presence of a delayed type II endoleak.

Conclusion:
Delayed type Ia endoleaks associated with proximal extension of the aneurysmal degeneration to the juxtarenal aortic segment, can raise some technical difficulties related to the previous implanted stent graft. Careful evaluation of patient anatomy and previous endografts should be done in planning for these procedures. On TABLE physician modification of stent grafts is a valid solution to overcome challenging cases limitations. Further long-term follow-up is needed.

P08 / ENDOVASCULAR TREATMENT OF RETROGRADE FED BILATERAL ILIAC ARTERY ANEURYSMS 10 YEARS AFTER AORTOBIFEMORAL BYPASS

Carlos Veiga[1]; Duarte Rego[1]; Ivone Silva[1]; Daniel Mendes[1]; Carlos Veterano[1]; Henrique Rocha[1]; João Castro[1]; Andreia Pinelo[1]; Henrique Almeida[1]; Carolina Vaz[1]; Rui Almeida[1]
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Introduction
The development of aneurysms in iliac arteries excluded from high-pressure direct flow from the aorta is very uncommon and there is evidence to suggest that iliac arteries will remain stable in size after repair of AAA by aortobifemoral bypass.[(1)]
We report a case of successful treatment of bilateral iliac artery aneurysms, found 10 years after an aortobifemoral bypass, with perfusion only by retrograde flow from the common femoral arteries.

Case Report
A 76-year-old man with multiple comorbidities who underwent an aortobifemoral bypass for a ruptured AAA 10 years earlier came for consultation after incidental finding of bilateral iliac artery aneurysms on a CT scan during the study of a renal cyst. Both common iliac arteries origins had been ligated at the initial surgery. CT angiography (CTA) showed a right internal iliac artery (IIA) aneurysm of 43 mm and a left common iliac artery (CIA) aneurysm of 45mm that were not present 10 years before (FIGURE 1). Exclusion of the left CIA aneurysm was achieved with positioning of two Viabahn covered stents (10x100 mm + 13x100 mm) starting from the internal iliac artery extending to the external iliac artery in a "C" shaped manner. The right IAA aneurysm was excluded with embolization of the distal internal iliac branches with 8-mm and 10-mm Cook Nestor coils, embolization of the sac with two 20-mm coils and occlusion of the proximal external iliac artery (EIA) with a 14-mm Medtronic Talent occluder. Retrograde access was obtained through bilateral superficial femoral artery surgical approach. The patient did well postoperatively and was discharged after two days. A CTA two months after surgery showed total exclusion of the left CIA aneurysm with good positioning and patency of the Viabahn grafts without endoleaks and normal filling of the left hypogastric artery, as well as complete occlusion of the right IIA aneurysm and EIA (FIGURE 2).

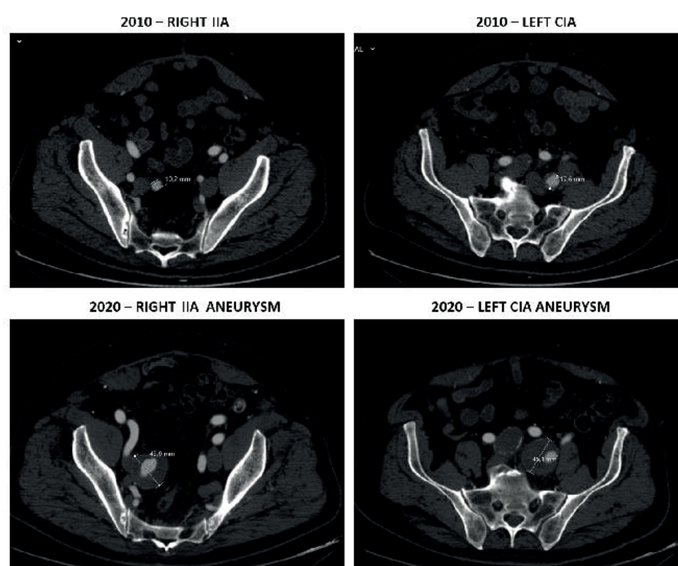

Figure 1: *CTAs showing right IIA and left CIA degeneration from 2010 to 2020.*

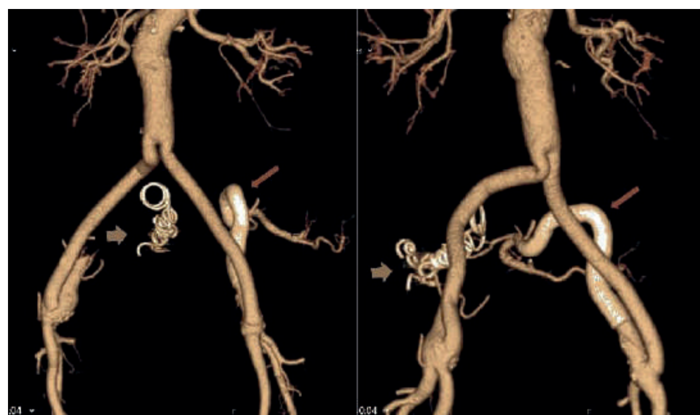

Figure 2: *3D reconstruction of postoperative CTA.*

Conclusion

Although this case describes a rare occurrence, it highlights that aneurysmal degeneration of iliac arteries can be generated by retrograde blood flow after treatment of AAA by aortobifemoral bypass. In this case an endovascular approach was effective in excluding both aneurysms while maintaining patency of one hypogastric artery.

References

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P09 / HOME-MADE FROZEN STENTED ELEPHANT TRUNK FOR ACUTE ARCH DISSECTION: AN HYBRID OFF-THE-SHELF TREATMENT IN AN EMERGENCY SETTING

Nuno Henriques Coelho[1]; Victor Martins[1]; Diogo Silveira[1]; Daniel Martins[2]; Nelson Paulo[2]; Evelise Pinto[1]; Carolina Semião[1]; João Peixoto[1]; Luís Fernandes[1]; Alexandra Canedo[1]; Fátima Neves[2]
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Introduction

Involvement of the ascending/aortic arch in the thoracic aorta pathology can preclude TEVAR due to the absence proximal landing zone. Hybrid interventions combining ascending/aortic arch replacement with TEVAR of the descending thoracic aorta (DTA) are associated with good outcomes. Despite the existence of dedicated devices (E-vita, Thoraflex), they may not be available in good time in emergent cases that may require inventive solutions, like the one we present.

Case Report

A 53-year-old hypertensive, active smoker male was admitted due to an acute non-A-non-B aortic dissection (zone 2, extending to the left common iliac artery), complicated with a contained rupture at the aortic isthmus and a left haemothorax. Considering the absence of a secure proximal landing zone, the apparent involvement of the arch (risk of retrograde dissection), as well as the patient age and fitness, we decided for an aortic arch replacement and frozen stented elephant trunk using off-the-shelf devices. First, a guidewire was introduced via the right femoral artery (non-dissected iliac axis) within the true lumen to the ascending aorta.

Extra-corporeal circulation was established and cerebral perfusion secured through an 8 mm graft, anastomosed to the right axillary artery. Debranching of the innominate and left common carotid arteries was performed with a 16x8mm bifurcated graft (distal anastomosis). Aortic arch replacement was performed with a 28mm Dacron, under hypothermic circulatory arrest: the distal anastomosis was first done in zone 2, in a conventional elephant trunk fashion (with an excess of 6 cm of the graft down to the DTA). Under direct vision, through the opened arch, a 30x30x157mm endoprosthesis (10% oversize) was anterogradely advanced to the DTA with its proximal part parked at the level of the Dacron anastomosis and fixated with interrupted suture. Proximal arch anastomosis was completed at the level of the sinotubular junction. Proximal anastomosis of the bifurcated Dacron and individual debranching of the left subclavian artery were performed. Completion angiography showed appropriately reconstructed aortic arch, successful exclusion of the entry tear and rupturesite, as well as adequate renal and visceral perfusion. The patient had an uneventful postoperative course, being discharged on postoperative day 23. Control CTA demonstrated successful arch reconstruction, true lumen expansion and no signs of complications.

Conclusion

This hybrid approach with off-the-shelf devices was successful and avoided the cumulative morbidity of an additional left thoracotomy as well as the technical difficulty of a full open surgery in this setting. In the absence of readily available dedicated devices, hybrid techniques will undoubtedly play a role in the treatment of acute aortic syndromes. The existence of an "Aortic Team" available to evaluate, decide and combine the expertise of cardiothoracic and vascular surgery was essential in this case.

P10 / LIGHT-INDUCED AMAUROSIS: A RARE SYMPTOM OF CAROTID STENOSIS

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Introduction:
Light-induced amaurosis refers to a transient monocular or binocular vision loss triggered by bright lights. Like amaurosis fugax, light-induced amaurosis is associated with carotid artery stenosis but they differ from each other in presentation and pathophysiology. It is thought to be an impairment in the regeneration of retinal visual pigments caused by the inability of carotid circulation to sustain the increased metabolic activity occurring when the retina is exposed to bright lights. With this report we aim to present a case of light-induced amaurosis and its management.

Case Report:
We describe a 74-year-old man with the isolated complaint of monocular visual loss from his left eye when exposed to bright lights. These episodes were self-limited and lasted for several minutes. His vision was reportedly good between episodes. He also complained of headache and dizziness. There were no other focal neurological deficits present. The patient had a history of peripheral artery disease, chronic heart failure, hypertension, dyslipidaemia, permanent atrial fibrillation and has a history of heavy smoking in the past. Chronic medical therapy included anticoagulation with rivaroxaban, antiplatelet therapy with acetylsalicylic acid and atorvastatin. Imaging studies (doppler ultrasonography and CT angiography) revealed a significant morphologic stenosis of the left common carotid artery, left internal carotid artery with subocclusive disease and right internal carotid artery with 70-75% stenosis (NASCET). The vertebral arteries study did not reveal significant morphologic disease. The patient was submitted to left common and internal carotid artery endarterectomy and Dacron patch angioplasty. The visual symptoms progressively improved after surgical treatment. The dizziness and headache were completely gone.

Conclusion:
Light-induced amaurosis is a rare and less known symptom associated with severe carotid artery stenosis. Its timely recognition is important in order to not deprive patients of timely treatment.

POSTERS EM EXIBIÇÃO

P11 / MULTIPLE SYNCHRONOUS ANEURYSMS AS A PRESENTATION OF BEHCET'S DISEASE

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Introduction
Behcet's disease is a multisystemic chronic vasculitis that can cause vessel wall thickening, stenosis, occlusion along with aneurysm formation. Vascular disease can be the initial manifestation of the disease in about 25% of the cases.

Methods
It is presented the diagnostic approach and treatment management of a patient with multiple location synchronous aneurysms as a presention of a Behcet's disease

Results
The patient was a 44 years-old man, with a past medical history of oral aphthous stomatitis 10 years before and recurrent superficial vein thrombosis in both upper and lower limbs. He was referred to a vascular appointment due to rest pain in the left lower limb. On physical examination, the patient showed signs of distal toe embolization in the left foot, with the presence of bilateral femoral, popliteal and distal pulses, but increased pulse amplitude was evident in aortic and popliteal locations. The Angio-CT scan showed multiple synchronous sacular aneurysms located in the infrarrenal aorta, the right common iliac artery, both popliteal arteries and in the left tibioperoneal trunk. The patient was searched for infectious arteritis and connective tissue diseases. Surgery was first performed to treat the symptomatic left popliteal and tibioperoneal trunk artery aneurysms and a supragenicular popliteal-tibial bypass with venous conduit was performed. 11 days after, due to an exponential growth of the right popliteal artery aneurysm from 1.6 to 6.0 cm of diameter, the patient underwent an urgent surgery and a popliteo-popliteal bypass with venous conduit was performed. Aortic and iliac pseudoaneurysms were treated with an endovascular approach with implantation of balloon expandable covered stents (20x48mm BeGraft Aortic Bentley® and 10x59mm Advanta V12, Maquet®). The arteritis workup studies concluded the diagnosis of a medium- large- vessel vasculitis ANCA

negative, highly suggestive of Behcet's disease, and the patient started immunosuppressive therapy with corticosteroids and azathioprine. Later at 4 months, readmission was performed to treat a new pseudoaneurysm of the left rafial artery. At 2 years of follow-up the patient remains asymptomatic on immunosuppressive therapy, with normal patency of the grafts and the latest AngioCT without endoleaks our new aneurysms.

Conclusão

Aneurysm arterial degeneration is one of the main vascular complications of Behcet's disease. Conventional surgical and endovascular intervention are important for the treatment management, but immunosuppressive therapy is also critical to control the disease.

P12 / HYBRID TREATMENT OF AN AORTIC ARCH PSEUDOANEURYSM

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1. Centro Hospitalar Universitário do Porto

Introdução/Objetivos

Aortic arch pseudoaneurysm is a rare condition that might be asymptomatic but carries a high risk of rupture and it is potentially fatal. Therefore, treatment should be considered as soon as the diagnosis is made. Treatment modalities include conventional surgical repair, hybrid surgery, or complete endovascular repair. High-risk unfit patients for open repair require minimally invasive endovascular or hybrid repairs. We report the management a patient with aortic arch pseudoaneurysm and severe aortoiliac obstructive disease.

Material e métodos

Retrospective analysis of the medical reports.

Resultados

This report concerns a 67-year-old male with a medical background of arterial hypertension, type 2 diabetes mellitus, dyslipidaemia, former smoker, chronic obstructive pulmonary disease (COPD) gold 3 requiring supplemental oxygen. He was on Vascular Surgery follow-up for lower limb peripheral arteriopathy, initially short distance intermittent claudication and a recent 2-week calcaneus wound. A CT angiography incidentally detected an aortic arch bilobated pseudoaneurysm measuring 27x22x28mm involving the left subclavian artery's (LSA) ostium. There was no past history of thoracic trauma, thoracic surgery. Mycotic origin was considered given its pulmonary background. CTA also revealed severe infrarenal aortic and proximal iliac calcification hindering endovascular device progressions. Due to its severe comorbidities the patient was refused for open repair and proposed for hybrid repair. The procedure commenced with an LSA debranching with an axillo-axillary bypass (right to left) using an 8mm ePTFE graft. This bypass was preferred over a carotid-subclavian bypass due to bilateral severe carotid calcified disease. Using percutaneous access, aortoiliac obstructive disease was treated using covered kissing stents (Viabahn VBX 8x59mm). Subsequently, the pseudoaneurysm was excluded using a 31x31x150mm Gore TAG stent graft, deployed immediately distal to the left common carotid artery's ostium. Retrograde puncture of the left axillary artery was used for access and deployment of a 12mm Amplatzer Vascular Plug II in the LSA's ostium. Final angiography showed proper graft positioning and pseudoaneurysm exclusion. The surgery complicated with percutaneous vascular closure device failure requiring left surgical approach and dacron patching of the common femoral artery. Aside from a nosocomial pneumonia, the remaining post-operative period was unremarkable. Patient was discharged 8 days after surgery.

Conclusões

Aortic arch pseudoaneurysms are an uncommon, but surgically challenging problem. Endovascular interventions have emerged as viable alternatives to open repair and may be the solution for high-risk unfit patients.

P13 / MAY-THURNER SYNDROME: THE IMPORTANCE OF IVUS IN THE DIAGNOSTIC AND THERAPEUTIC ALGORITHM

Marta Machado[1]; Miguel Machado[1]; Arlindo Matos[1]; Rui Machado[1]

1. CHULN

Introduction

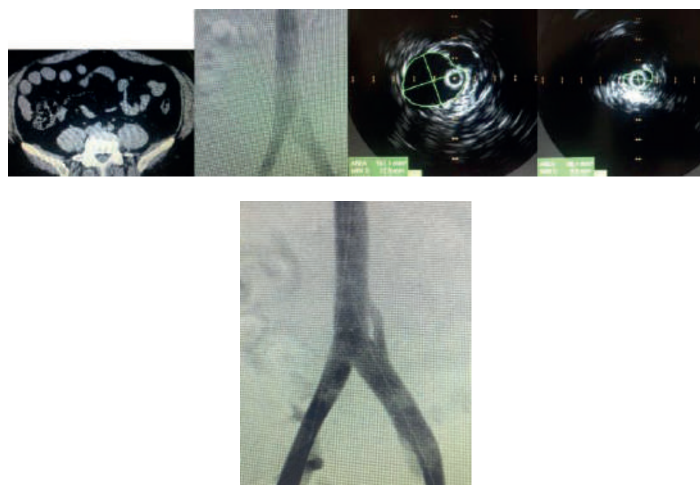
May Thurner syndrome (MTS) is an anatomical condition in which the left common iliac vein is compressed between the fifth lumbar vertebra posteriorly, and the right common iliac artery anteriorly associated with symptomatology. Affirming the diagnosis can be difficult and intravascular ultrasonography (IVUS) can help in the definitive decision.

Clinical Case

A 43 years old man with a past history of a deep venous thrombosis of the left lower limb after an inguinal hernioplasty presented at our clinical appointment with

a history of 5 months left limb edema and inability to stay stand up for long periods of time, impeding from working. A venous-CT was done, however there was a disagreement between the radiologist who thought that there was no relevant compression of the left common iliac vein by the right common iliac artery and the vascular surgeon who thought the opposite.
The patient was proposed to do a phlebography with IVUS to increase the diagnosis acuity, which was accepted and confirmed a significative compression (Image 1)
An Abre venous stent 16/80 was implanted with posterior dilation with a 16/40 balloon.
The phlebography with IVUS control showed complete resolution of the compression. (Image 2)

Discussion/Conclusion
The diagnosis of MTS can be difficult and implies a high degree of clinical suspicion, since the etiology of the symptoms can be multifactorial and can involve other clinical entities such as superficial venous reflux, post-thrombotic syndrome and primary lymphedema.
The emergence of endovascular surgery revolutionized the treatment of obstructive venous disease, due to its low physiological aggressiveness, high safety, good efficacy and a complication rate lower than 2% and became the gold standard of treatment. However the implantation of stents in a young population implies additional precautions due to the lack of knowledge about their behavior over the long term.
IVUS is a more recent exam that can determine the size of the vessels, the internal morphology and the degree of stenosis, as well as facilitating the accuracy of stent implantation. As observed in this case, the IVUS allowed us to increase the degree of certainty of the diagnosis and to increase the therapeutic accuracy of the ilio-cava stenting performed.
The use of IVUS should be carried out in a more routine way or ideally on a routine basis.



P14 / UM BYPASS ESQUECIDO PARA O TRATAMENTO DA OCLUSÃO DA AORTA JUSTARRENAL

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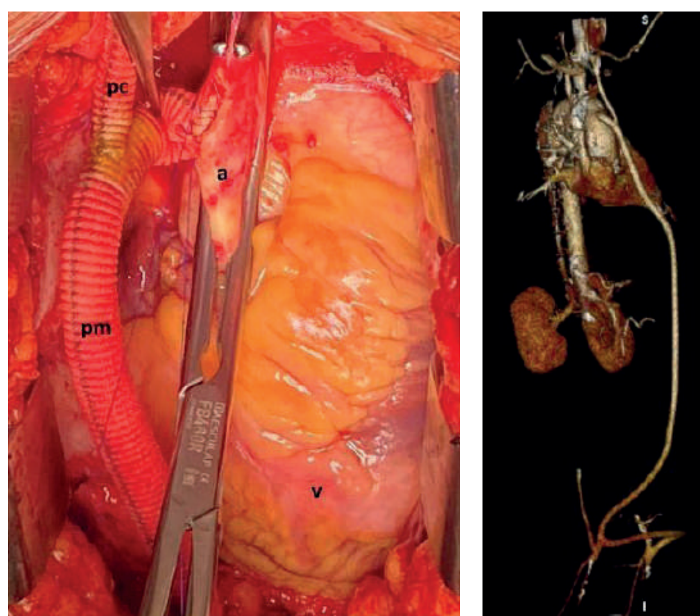
Introdução
A calcificação aórtica circunferencial extensa e a obesidade mórbida podem complicar o *bypass* aorto-bifemoral. Nestes doentes, particularmente se têm baixo risco anestésico-cirúrgico e longa esperança de vida, o *bypass* axilo-femoral não oferece uma permeabilidade aceitável a longo prazo e as alternativas endovasculares podem ser complexas.

Relato de caso
Relata-se o caso de uma doente de 68 anos, com antecedentes de HTA, obesidade mórbida, dislipidémia e tabagismo ativo, seguida por claudicação intermitente limitante dos membros inferiores e do membro superior direito.
A Angio-TAC revelou oclusão segmentar do tronco arterial braquio-cefálico (TABC) e oclusão da aorta abdominal infrarrenal e das artérias femorais superficiais, com extensa calcificação circunferencial da aorta visceral e infrarrenal e dos eixos ilíacos.
Após ausência de resposta a tratamento médico ótimo, optou-se por uma abordagem cirúrgica convencional multidisciplinar.
Após esternotomia mediana, foi realizado o controlo da aorta ascendente. Realizou-se a exposição cirúrgica da artéria carótida comum (ACC) direita e bifurcações femorais. Efetuou-se a tunelização anatómica da aorta ascendente para a ACC direita. Foi referenciado um trajeto oblíquo entre a extremidade inferior da esternotomia e cavidade pericárdica e a extremidade superior da incisão inguinal direita, passando pelo plano pré-peritoneal, posterior aos músculos retos abdominais. Foi utilizada a tunelização subcutânea habitual entre as incisões inguinais.
Realizou-se a anastomose termino-lateral entre uma prótese tubular de Dacron 6mm e o segmento proximal de uma prótese bifurcada anelada de Dacron 8mm. Utilizou-se o conduto protésico criado para realizar um *bypass* combinado da face anterior da aorta ascendente para a ACC direita (pc, Fig.1) e para as AFC (pm, Fig.1) sob heparinização sistémica. Foram realizadas sequencialmente as anastomoses: aórtica, sob clampagem parcial (a, Fig.1), carotídea, após tunelização anatómica, e femorais (após endarterectomia e tunelização subcutânea).
O pós-operatório decorreu sem intercorrências. A doente teve alta hospitalar ao fim de uma semana com pulso radial direito e pulso femoral bilateral.

Seis meses depois, mantém-se assintomática do ponto de vista vascular. A Angio-TAC de *follow-up* demonstra a permeabilidade dos ramos do *bypass* sem complicações (Fig.2).

Conclusão

Apesar de requerer esternotomia, a aorta ascendente oferece um ótimo *inflow* para uma revascularização periférica. O *bypass* da aorta ascendente para os membros inferiores é tradicionalmente utilizado em doentes que vão ser submetidos a revascularização cirúrgica coronária. No entanto, pode ser considerado uma alternativa ao *bypass* aorto-femoral ou toraco-femoral em doentes de risco anestésico-cirúrgico baixo ou moderado. É particularmente útil se se pretende revascularizar os troncos supra-aórticos no mesmo tempo operatório, como na doente apresentada.



P15 / ENDOVASCULAR REPAIR OF SUBACUTE TYPE B AORTIC DISSECTION IN AN ANEURYSMATIC ABDOMINAL AORTA – A CASE REPORT

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Introduction

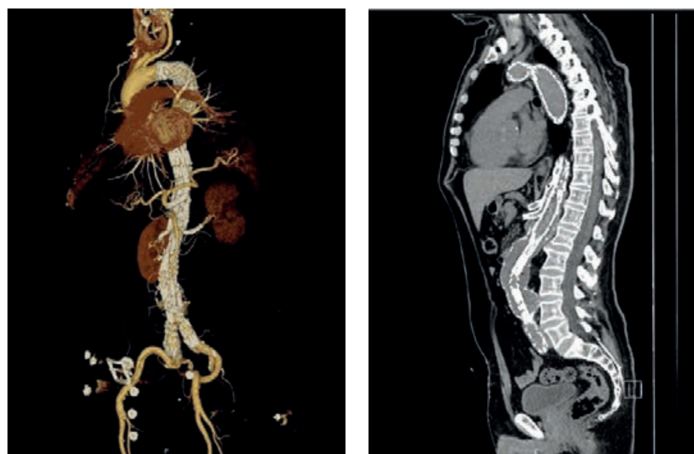
Abdominal aortic aneurysm (AAA) coexisting with Stanford type B aortic dissection is an uncommon occurrence and can be a diagnostic and treatment challenge. Endovascular repair has emerged as a safe alternative in the treatment of complex aortic disease.

Case report

We report the case of a 67-year-old male with a known AAA under surveillance who presented to the emergency department with retrosternal pain. Computed tomography angiography showed an acute type B dissection extending from the left subclavian artery to 2-3 cm distal of the renal arteries, as well as the previously reported juxtarenal AAA, with an increased diameter of 55mm. Only the right renal artery arose from the false lumen. Staged endovascular repair was conducted in the subacute phase with TEVAR followed by BEVAR, with total exclusion of both type B dissection and AAA, as well as maintenance of right renal artery perfusion.

Discussion

Total endovascular repair is a feasible alternative for repair of coexisting type B dissection and AAA involving visceral arteries.



P16 / HEMOPTISES COMO MANIFESTAÇÃO INICIAL DE FALSO ANEURISMA SUBCLÁVIO

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Introdução

Os falsos aneurismas da artéria subclávia são uma situação clínica rara. Na maioria das vezes, são o resultado da manipulação iatrogénica no contexto de cateterização vascular central, traumatismo perfurante ou fratura clavicular. As manifestações clínicas são diversas e variam desde quadros assintomáticos a massa pulsátil,

sintomatologia álgica local, sintomas compressivos e/ou ruptura para estruturas vizinhas (com subsequente fistula arteriovenosa, arterio-brônquica ou arterio-esofágica) ou ruptura livre. Os autores têm como objetivo a descrição da apresentação clínica tardia e o tratamento de um falso aneurisma subclávio de eiologia incomum.

Caso Clínico

Doente do sexo masculino de 19 anos recorreu aos cuidados de saúde por dor torácica e hemoptises com 3 dias de evolução e agravamento progressivo. Como antecedentes a referir, sincope de etiologia indeterminada e acidente de viação aos 14 anos. Nega cateterização vascular central prévia e não apresenta antecedentes familiares relevantes. Na investigação, por lesão hipotransparente no lobo superior esquerdo na telerradiografia de tórax, realizou AngioTC de tórax que revelou falso aneurisma subclávio esquerdo, no segmento intratorácico, com cerca de 70 mm de maior diâmetro, a cerca de 5mm da crossa da aorta e com sinais de rutura contida. Foi submetido a exclusão endovascular com *stent* coberto expansível por balão 9x38mm (*Advanta V12®*) por acesso umeral e femoral retrógrado, preservando a permeabilidade da artéria vertebral esquerda. Verificou-se uma evolução clínica favorável no período pós-operatório, sem novos episódios de dor torácica ou hemoptises. Foram excluídas causas infecciosas, inflamatórias/auto-imunes e doenças do tecido conjuntivo. Foi também excluída fistula arterio-brônquica. Apenas se apurou um traumatismo torácico contuso ipsilateral, 6 meses antes, que se associou a dor torácica durante 2 semanas, tendo sido assumido como a etiologia mais provável. A AngioTC de seguimento aos 6 meses demonstrou exclusão do falso aneurisma e normal permeabilidade da artéria subclávia. Mantém-se assintomático aos 6 meses de seguimento. Dada a idade, está proposto um seguimento clínico a longo prazo, acompanhado de seguimento imagiológico regular.

Conclusões

Os pseudoaneurismas da primeira porção da artéria subclávia apresentam-se como um desafio cirúrgico. Existem múltiplas técnicas terapêuticas descritas como ressecção e reconstrução cirúrgica, exclusão endovascular ou injecção ecoguiada de trombina. Este caso demonstra a exequibilidade e sucesso clínico da exclusão endovascular com *stent* coberto, mesmo com zona de selagem proximal curta, com morbilidade mínima.

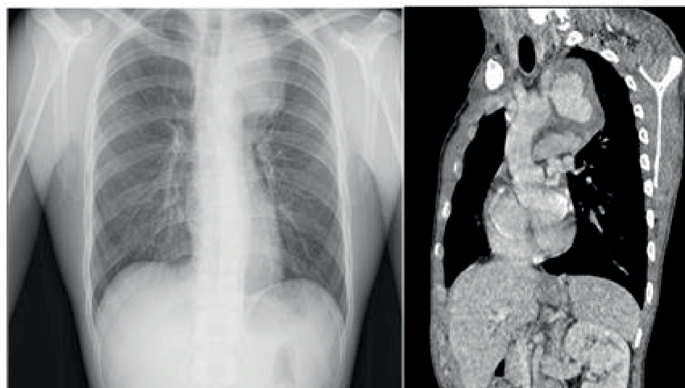

Figura 1- Telerradiografia de Tórax e AngioTC pré-operatórios a identificar o falso aneurisma

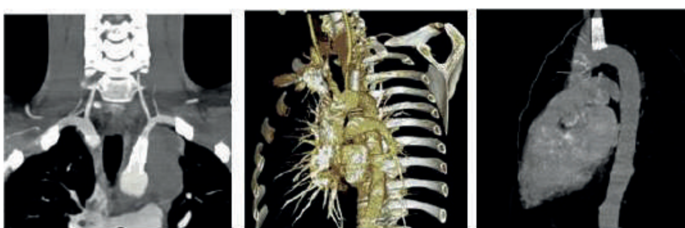

Figura 1 - AngioTC pós-operatório (1 mês) e reconstruções 3D aos 6 meses de follow-up.

P17 / CYSTIC ADVENTITIOUS DISEASE OF THE POPLITEAL VEIN

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Introduction

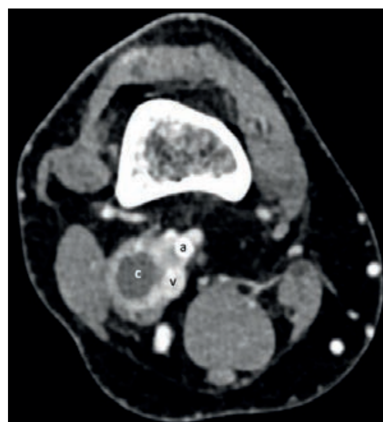
Cystic adventitious disease (CAD) is characterized by the accumulation of gelatinous fluid within the adventitial layer of a blood vessel. Over 90% of CAD occurs in the arterial system. Venous CAD most commonly involves the iliofemoral rather than the popliteal segments.

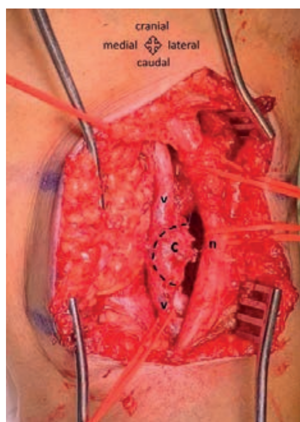
Case Report

We report a 49-year-old female patient with a previous right-leg DVT. She presented to a vascular outpatient appointment with recurrent right lower extremity swelling. The symptoms were worse in the summer months and at the end of the working days.
She previously performed an outpatient clinic venous duplex ultrasound that reported an ectatic (4cm) and incompetent right popliteal vein.
CT venography (Fig.1) showed focal ectasia of the right popliteal vein (25mm maximum caliber) at cost of an eccentric low-density cyst with 15mm (c); the vein lumen was patent (v), but slightly narrowed.

Under general anesthesia, the patient was placed in the prone position. We performed a lazy-S incision on the right popliteal fossae. Dissection was carried down in a popliteal fossa with a moderate chronic inflammatory reactive tissue. The popliteal vein (v; Fig.2) had an eccentric thickened lateral bulging (c). After systemic heparinization, a longitudinal venotomy adjacent to the bulging was performed; we performed an en-bloc cyst removal and endophlebectomy. Patch popliteal venoplasty was subsequently performed using the ipsilateral small saphenous vein.
The postoperative period was uneventful and the patient was discharged on the first postoperative day. Compressive stockings were used day and night for the first two postoperative days and during the day thereafter. The patient is under rivaroxaban since hospital discharge.
Pathological examination of the resected specimen showed vessel wall fragment with areas of high hyalinized fibrosis and an area of cystic degeneration, with fibrosis, neovessels and chronic inflammatory infiltration.
After 6 months from surgery, the patient described persistent leg swelling by day's end. Follow-up venous duplex ultrasound showed vein reflux through a normal caliber popliteal vein with no evidence of cyst recurrence.

Conclusion
Venous CAD is a rare disease and should be considered in case of previous DVT or symptoms mimicking DVT. Because only a small number of cases of venous CAD have been reported, the optimal treatment for the condition is unknown. Cyst resection and reconstruction with vein patch, venous or synthetic graft is the most commonly used strategy and has lower rates of cyst recurrence and need for re-operation.





P18 / MALFORMAÇÃO ARTERIOVENOSA E PATOLOGIA OBSTRUTIVA DO SISTEMA VENOSO PROFUNDO: PROTECÇÃO CARDÍACA OU UM DESAFIO TERAPEUTICO ACRESCIDO? A PROPÓSITO DE UM CASO CLÍNICO

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Introdução/Objetivos
As malformações arteriovenosas (MAV) são raras e a sua história natural variável. Podem apresentar-se com um amplo espectro de manifestações mas a dor, a hemorragia, a isquemia e insuficiência cardíaca de alto débito são indicações inequívocas para tratamento. A S. May-Thurner é relativamente frequente e pode complicar-se com trombose da veia ilíaca e femoral esquerda. O objetivo deste trabalho é relatar o caso de um doente com MAV pélvica incapacitante e um Síndrome de Cockett / May-Thurner. A experiencia adquirida conduziu a novas formas de abordagem terapêutica e a uma revisão da literatura.

Caso clínico
Doente de 75 anos, sexo masculino, enviado à nossa consulta por dor e acentuado edema do membro inferior. O agravamento do edema e o aparecimento de úlcera exsudativa na região posterior da coxa ditaram a necessidade de intervenção. Ao exame objetivo, o doente apresentava edema marcado da coxa esquerda comparativamente ao membro contra lateral, colateralidade exuberante e úlcera superficial no terço médio-posterior da coxa esquerda. Para investigação, o doente realizou um TC e uma RMN que revelaram uma malformação arteriovenosa pélvica à esquerda. O padrão de retorno venoso com grande exuberância a envolver a parede abdominal a veia femoral (*FIGURA 1*), fizeram suspeitar uma anomalia do sistema venoso profundo e confirmaram oclusão do eixo ilíaco esquerdo.

Figura 1 *- RMN que demonstra malformação arteriovenosa pélvica e coxa esquerdas*

Foi equacionada uma estratégia de esclero-embolização selectiva pélvica coma álcool absoluto: foi submetido a embolização super-selectiva da MAV com álcool absoluto

(dose total etanol: 14 ml a 100%) sob anestesia geral, sem complicações. Manteve-se um quadro de edema exuberante com melhoria. Após dois meses e num segundo tempo cirúrgico, o doente foi submetido a embolização com *coils* e nova esclero-embolização líquida. Ambos os procedimentos decorreram sem complicações e o doente teve alta após 6 dias de pós-operatório sem intercorrências.
Após os procedimentos, a dor no pé esquerdo e o edema do membro afetado diminuíram e a úlcera cicatrizou.

Discussão
O tratamento de MAV de alto fluxo é dos mais desafiantes e complexos para os cirurgiões vasculares. Acredita-se que a síndrome de May-Thurner é relativamente frequente, mas a sua incidência na população é desconhecida. Neste caso, admite-se que a compressão da veia ilíaca esquerda ofereceu proteção para a descompensação cardíaca que uma MAV de alto fluxo de grandes dimensões pode oferecer. No entanto, a síndrome de May-Thurner poderá ter contribuído para o agravamento sintomático local da MAV pélvica nomeadamente para o membro inferior esquerdo e colocou sérios problemas de acesso endovascular à lesão.

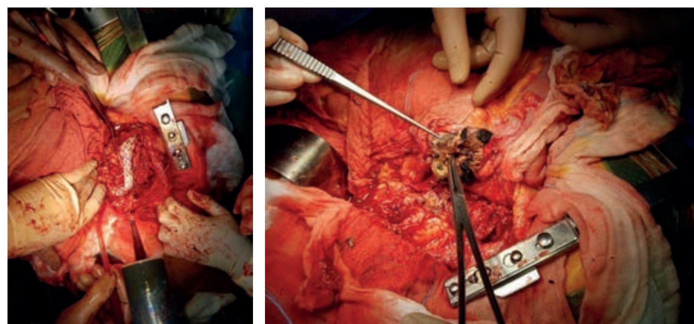
P19 / SECONDARY AORTOENTERIC FISTULA FOLLOWING EVAR WITHOUT SURGICAL EXPLANTATION: A CASE OF SUCCESS DEFYING THE ODDS

Ana Carolina Semião[1]; Clara Nogueira[1]; Ricardo Gouveia[1]; Andreia Coelho[2]; Nuno Coelho[1]; Evelise Pinto[3]; João Peixoto[1]; Luís Fernandes[3]; Marta Machado[3]; Alexandra Canedo[1]
1. CHVNG/E, FMUP;
2. CHUP, FMUP;
3. CHVNG/E;

Introduction
Secondary aorto-enteric fistula (SAEF) following EVAR is a rare but potentially fatal disease. The aetiology and mechanisms are unclear.

Case Report
A 60 year old male was referred to the vascular surgery emergency following complaints of supra pubic and back pain. An enhanced-CT revealed an infra-renal AAA of 60 × 45 mm with signs of imminent rupture and an urgent EVAR was successfully performed. Nonetheless, three months later, the patient was readmitted at the emergency room with a history of sustained fever and anorexia for the past month. Enhanced-CT revealed air around the endograft and a retroperitoneal abscess. Endoscopy confirmed a full-thickness parietal defect of 4 mm in diameter involving the visceral wall of the third/fourth portion of the duodenum, compatible with an aorto-duodenal fistula. After discussing the case with general surgery, the surgical approach was decided. Resection of the third and fourth duodenum including the fistula was accomplished. After aneurismatic sac rinsing and closure, it was covered with an omental flap. Blood cultures were positive for Parvimonas micra, sensitive to vancomycin, prescribed during hospital stay. After discharge, the patient was under oral antibiotics for a year. Two year follow-up shows no clinical signs of infection, normal laboratory tests and imagiologic patency of the left limb of the endograft without evidence of graft infection.

Conclusions
SAEF is a rare complication after aortic surgery, which may occur after open surgical repair and EVAR, with a frequency of 0.3-0.5%, and is associated with high morbi-mortality (21-77%). The "gold standard" treatment remains removal of the infected device in addition to antibiotic. In this case, the patient had a favorable response to directed antibiotics. Surgical exploration found no evidence of retroperitoneal abscess and for that reason, intra-operatively a less aggressive strategy was decided. Following surgery, an antifungal agent was added, and after discharge patient was kept under oral antibiotics and a close clinical and imagiological surveillance. To our knowledge, there are only few cases reported in the literature of successful treatment of SAEF without endograft explantation. Long term surveillance remains critical.



P20 / BRACHIAL ARTERY ENTRAPMENT AFTER SUPRACONDYLAR HUMERAL FRACTURE — A CASE REPORT

Rita Carreira Garcia[1]; Anita Quintas[1]; Frederico Bastos Gonçalves[1]; Joana Catarino[1]; Ricardo Correia[1]; Rita Bento[1]; Tiago Ribeiro[1]; Emília Ferreira[1]
1. Hospital de Santa Marta

Introduction

Blunt brachial arterial injury is reported in 10% of supracondylar humeral fractures being one of the most common pediatric vascular injuries and having potentially devastating consequences such as Volkman ischemic contracture and amputation.

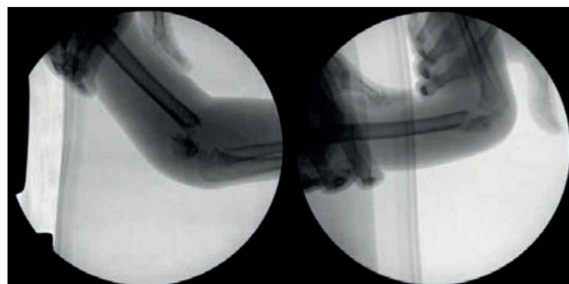
Case Description

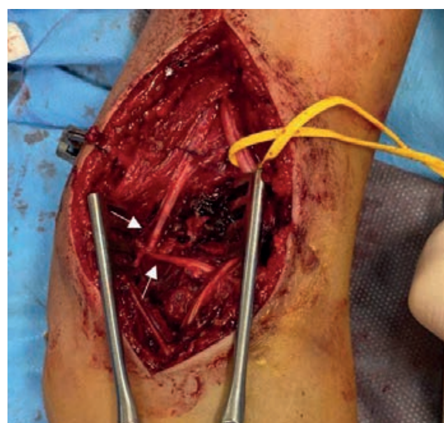
A seven-year-old presented to the emergency department with a Gartland III supracondylar humeral fracture of the left arm. He was submitted to a closed fracture reduction (FIGURE 1) and percutaneous fixation using two crossed Kirschner wires. A milking maneuver over the muscles was needed in order to release the brachialis muscle from the fracture. 24-hours after the procedure the patient continued to experience reduced hand mobility and sensitivity, associated with increased pain, not controlled by standard analgesia. Poor perfusion of the digits along with increased capillary refill time, prompted a vascular surgery evaluation.The axillary pulse was palpable, but brachial, radial and cubital pulses were absent and there was a temperature asymmetry between hands. Pulse oximetry did not read in the 4th and 5th digits.Sensitivity was reduced but present but only partial extension of the digits was possible. A visible hematoma was observed in the antecubital fossa. Eco-Doppler evaluation identified a stop in the brachial artery above the antecubital fossa.

The patient was submitted to surgical exploration of the brachial artery which was found to be entrapped in the bone reduction (FIGURE 2), with significant stretch of its antecubital segment. After release of the artery, it was found to be contused and unviable. We proceeded to do a brachio-brachial interposition with basilic vein. Anastomoses were performed using polypropylene interrupted sutures. The angiographic control showed permeability of the conduit and radial and cubital arteries were present, with an incomplete palmar arch (FIGURE 3). In the post-operatory period, palpable distal pulses remained present, and the patient recovered full sensitivity, but only partial mobility of the digits. At three months follow-up distal pulses were present with normal digital perfusion and mobility significantly improved after physical therapy.

Conclusions

Although most cases of limb ischemia related to supracondylar fractures resolve after anatomic reduction, some, as this one, may in fact be caused by it. In patients with no pulse and evidence of ischemia after orthopedic reduction, brachial artery exploration is mandatory in all cases.





P21 / GIANT COMMON ILIAC ARTERY ANEURYSM: A HEALTH SYSTEM FAILURE ?

Marta Machado[1]; Nuno Coelho[1]; Pedro Maximiano[1]; Ana Carolina Semião[1]; Joao Peixoto[1]; Luís Fernandes[1]; Clara Nogueira[1]; Pedro Brandão[1]; Alexandra Canedo[1]

1. *CHVNG/E*

Introduction

Isolated iliac artery aneurysm is a rare disorder occurring in about 0,05% of a population of men with age between 62-75 years old and 30% to 50% are bilateral. Its rarity justifies that its natural history and proper management is less defined compared with abdominal aortic aneurysms and stresses the importance of a better characterization of this pathology. There have been very rare reports of iliac artery aneurysms greater than 12 cm in diameter.

Method, Material and Results

Clinical Case:

81-year-old obese male with diabetes mellitus type 2 and arterial hypertension.

At the general practioner *an abdominal ultrasound was ordered to study a hyperbilirubinemia and an aneurysm of left common iliac artery was detected.*

At the emergent department *was observed:*

- *A patient with good general condition with no abdominal pain.*
- *ABP: 130/80 HR: 70 bpm. A 15cm pulsatile and expansible mass was palpated at the left iliac fossa. All pulses were present with normal pulsatility.*
- *An emergent CT confirmed a fusiform aneurysm of the left common iliac artery, with a maximum diameter of 14,4 cm and no retroperitoneal hematoma. (FIGURE 1).*

The patientwas hospitalized and submitted 6 days latter to an open surgery with partial aneurysmectomy and a common to external bypass with a 12mm PTFE protheses with occlusion of the internal iliac artery (Figure2)

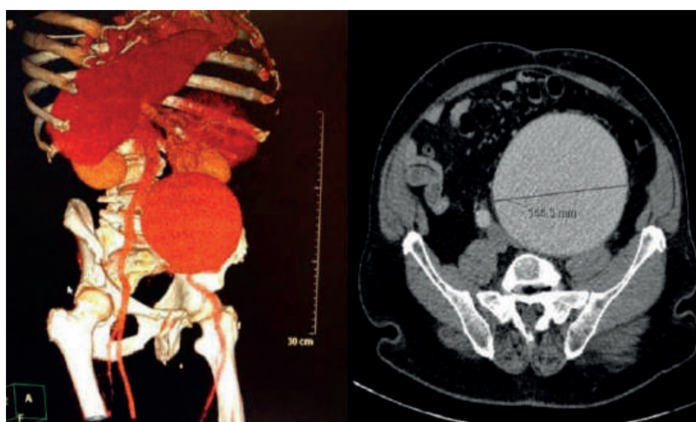
The pos operative *was complicated by a dehiscence of the surgical wound treated with vacuotherapy. The length of stay was 17 days.*

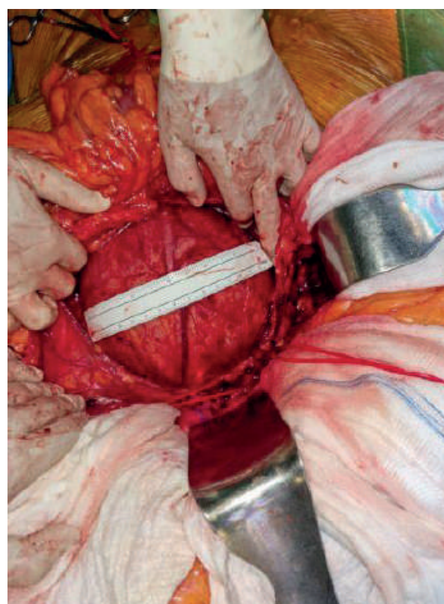
Discussion/Conclusion

First of all*, this case emphasize the importance of abdominal palpation at the general practioner appointment and the urgent need to implement an ultrasonographic aneurysmal screening in male with more than 65 years in order to make an earlier diagnosis of aneurysms and reduce the risk of rupture.*

Indication for treatment *in asymptomatic patients are not consensual because isolated common iliac aneurysms are rare. The classic diameter for treatment is 3.5 cm, but more conservative aproaches like 5cm in diameter are seen in the literature.*

The therapeutic options *between open or endovascular surgery must be individualized depending on the clinical and anatomical risks of the patient and the aneurysm. In this case, our therapeutic option was due to the patient's good general condition and the large diameter of the aneurysm.*





P22 / ISQUEMIA AGUDA SECUNDÁRIA A EMBOLIA PARADOXAL — UMA ETIOLOGIA INCOMUM

Leandro Nóbrega[1]; Filipa Jácome[1]; José Almeida Lopes[1]; Joel Sousa[1]; Emílio Silva[1]; Pedro Paz Dias[1]; José Teixeira[1]

1. CHUSJ

Introdução

A isquemia aguda dos membros inferiores é uma das patologias mais comuns em Cirurgia Vascular. As duas principais etiologias são a embólica e a trombótica. A embolia paradoxal secundária a foramen oval patente é um fenómeno raro e está habitualmente associada a acidente vascular cerebral. Na isquemia aguda, a idade média dos doentes acometidos é 54 anos e o membro inferior esquerdo é predominantemente afetado. Uma TVP pode ser diagnosticada concomitantemente em até 71% dos doentes. Na maioria dos doentes, o tratamento envolve embolectomia cirúrgica ou fibrinólise.

Métodos

Os autores apresentam um caso clínico de uma jovem do sexo feminino sem antecedentes relevantes que apresentou um quadro de isquemia aguda do membro inferior esquerdo secundária a embolia paradoxal.

Resultados

Uma jovem do sexo feminino de 21 anos sem antecedentes conhecidos deu entrada no serviço de urgência por queixas álgicas do pé esquerdo com 13 dias de evolução

associadas a parestesia, palidez e arrefecimento do pé. À admissão, não apresentava pulso pedioso e tibial posterior palpáveis à esquerda, mas não apresentava défices motores objetiváveis. O ECG apresentava-se em ritmo sinusal. Foi assumido o diagnóstico de isquemia aguda IIa e realizada uma angiografia que revelou ausência completa de perfusão do arco plantar. Foi instituída fibrinólise dirigida por cateter que reverteu com sucesso o quadro ao fim de 3 dias. Durante o internamento, o estudo etiológico foi realizado em conjunto com os serviços de Reumatologia e Cardiologia. O angio-TC revelou um trombo não-oclusivo na veia ilíaca comum direita e na veia cava inferior. O estudo imunológico e pró-trombótico revelou apenas heterozigotia para a variante G20210A da protrombina. Por outro lado, o ecocardiograma revelou um foramen ovale patente. A recuperação da doente foi completa e teve alta sem sequelas do quadro isquémico.

Conclusão
A isquemia aguda dos membros inferiores secundária a um foramen oval patente não é uma apresentação típica, especialmente em doentes jovens. Em linha com a literatura, a nossa doente teve o membro inferior esquerdo afetado e tinha evidência de TVP. A fibrinólise foi a terapêutica escolhida devido ao atingimento da circulação ultra-distal do membro. Por outro lado, a doente era muito mais jovem que a idade média de apresentação. Este caso é um exemplo paradigmático que a isquemia aguda dos membros inferiores não deve ser ignorada mesmo em doente jovens e aparentemente saudáveis e realça a importância de um bom estudo etiológico.

P23 / TRAUMATIC ILIAC ARTERIOVENOUS FISTULA FOLLOWING ABDOMINAL GUNSHOT INJURY: CASE REPORT

Filipa Jácome[1]; Lara Dias[1]; Marina Dias-Neto[1]; José Ramos[1]; José Teixeira[1]
1. Centro Hospitalar Universitário de São João

Introduction
Vascular injuries account for approximately 2–4% of all trauma admissions(1). Arterial venous fistulas represent only 2.5% of these cases and are mostly caused by penetrating injuries, including missile and gunshot wounds(1). They are mainly asymptomatic leading to delayed diagnosis and requiring a high suspicion grade to detect. Despite the increasing sensibility of imaging techniques, digital subtraction angiography remains the gold standard for diagnosis(2).

Methods
Report of a case of traumatic arteriovenous fistula associated to a pseudoaneurysm after abdominal shotgun trauma, successfully treated by endovascular surgery.

Results
A 34-year-old male was admitted in the emergency room with hemorrhagic shock after an abdominal shotgun trauma. An entry wound in the left iliac fossa was evident, with no exit wound, and an exploratory laparotomy was decided and resuscitative measures initiated. A medium volume hemoperitoneum was found, along with an extensive retroperitoneal hematoma on the left quadrants and two jejunal perforations. Segmental enterectomy with primary anastomosis, abdominal packing and laparostomy were decided and the patient was admitted to the intensive care unit. Computed tomography angiogram was requested due to refractive hypotension in the immediate post-operative period, which revealed a bullet medial to the left iliac vessels and a suspicion of a left external iliac artery lesion. The patient had bilateral femoral palpable pulses and adequate capillary refill in both limbs, with no signs of ischemia. Emergent angiography put in evidence an arteriovenous fistula between external iliac artery and external iliac vein with associate pseudoaneurysm, and a covered self-expandable stent was immediately placed in the external iliac artery. Final angiogram showed permeable iliac vessels, with fistula and pseudoaneurysm resolution (FIGURE 1). The patient exhibited a favorable evolution in the intensive care unit, with no vascular sequela in the lower limb.

Conclusion
Traumatic arteriovenous fistula is a rare entity and requires a high suspicion grade to diagnose early, avoiding the morbidity and mortality associated with delayed treatment. Angiography is the gold standard for diagnosis and should be done emergently when minimal suspicion exists. Endovascular repair, when feasible, is a safe and effective alternative to open surgery.

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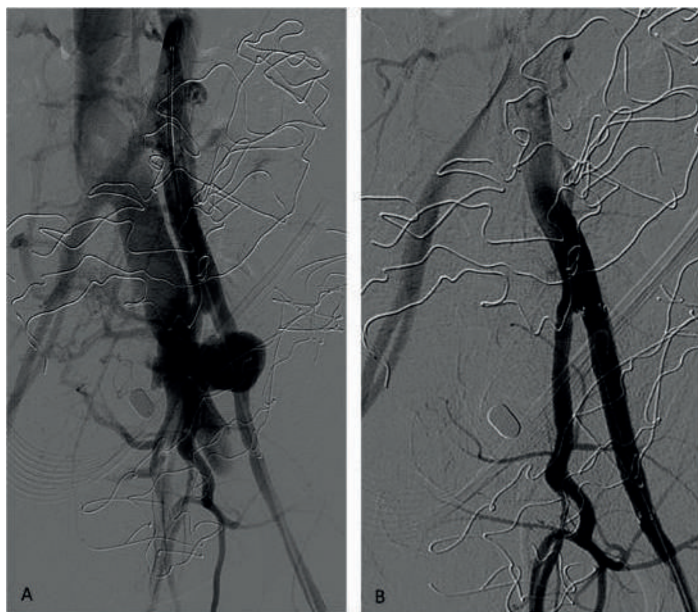

Figure 1 - Digital subtraction angiography. (A) Iliac arteriovenous fistula and associated pseudoaneurysm. (B) Completion angiography after covered stent deployment with arteriovenous fistula and pseudoaneurysm resolution.

P24 / MALFORMAÇÃO ARTERIOVENOSA — HAVERÁ AINDA LUGAR PARA A CIRURGIA TRADICIONAL?

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Introdução/Objetivos
As malformações arteriovenosas (MAV) são patologias raras geralmente com uma história natural de agravamento progressivo que cursam com níveis de gravidade variável, determinada pela localização, extensão e padrão hemodinâmico, e diferente prognóstico. A decisão terapêutica tanto em termos de *timing* como de estratégia pode ter um impacto decisivo, pois o tratamento inadequado, incompleto ou excessivo pode causar sequelas estéticas ou funcionais e resulta invariavelmente em crescimento da lesão. Apesar de nem todas as malformações vasculares carecerem de tratamento, este deve ser considerado perante dor intratável, ulceração/hemorragia ou insuficiência cardíaca.

Os autores têm como objetivo, através da descrição de um caso clínico, rever as indicações para a cirurgia ablativa das MAV.

Caso clínico
Doente de 13 anos, sexo feminino, melanodérmica, enviada à nossa consulta por lesão na coxa esquerda. Ao exame objetivo, o doente apresentava lesão de cor violácea, com 4*3 cm, de contornos mal definidos, sem dor a palpação e com fluxo de alta velocidade ao doppler contínuo. Após um seguimento de 2 anos, em que a lesão se manteve indolente, houve um agravamento da sintomatologia álgica (antes era apenas esporádica) e ulceração da lesão. Para investigação, foi solicitada RMN que revelou uma "lesão superficial no terço médio da coxa esquerda, de contornos polilobulados, infiltrando a superfície muscular do músculo reto femoral anterior e vasto interno, com vazios de sinal correspondendo a estruturas vasculares" *(FIGURA 1)*.

A localização superficial, o escasso envolvimento muscular e a sintomatologia álgica persistente conduziram a uma abordagem cirúrgica direta, com a colaboração da Cirurgia Plástica e Reconstrutiva.
Procedeu-se a excisão da MAV com inclusão de cerca de 80% do músculo reto femoral seguida de retalho keystone lateral baseado nos vasos perfurantes dos vasos femorais profundos e circunflexos descendentes. A cirurgia e o período pós-operatório decorreram sem complicações. O resultado da anatomia patológica confirmou o diagnostico de MAV e a ressecção completa da mesma.

Discussão
A ressecção em bloco é uma opção terapêutica para o tratamento de MAVs. O caso clínico descrito elucida os critérios que favorecem a escolha deste método, as estratégias necessárias à sua prossecução.

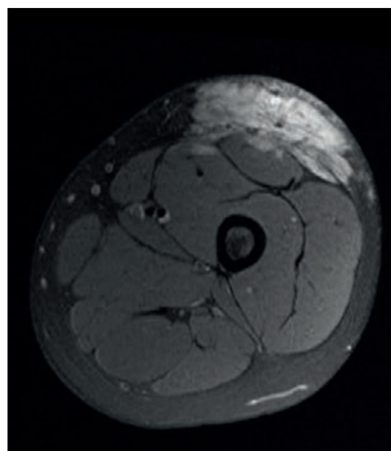


Figura 1 *RMN que demonstra malformação arteriovenosa coxa esquerda*

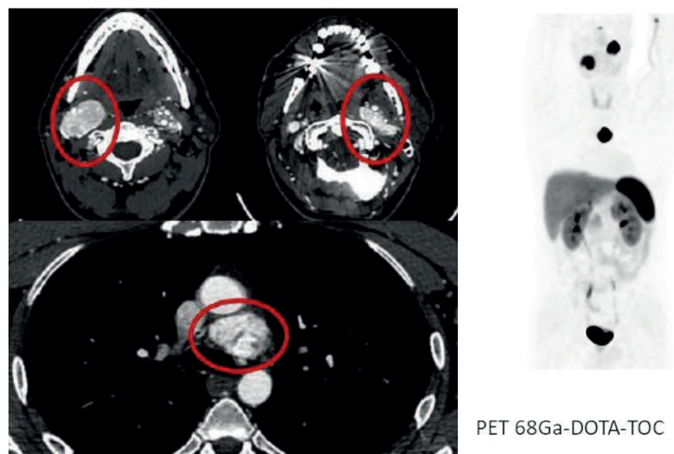
P25 / TRIPLES, GENETICS AND TUMORS: AN EXTREMELY RARE PRESENTATION

Luís Fernandes[1]; Diogo Silveira[1]; Nuno Henriques Coelho[1]; Pedro Maximiano[1]; Evelise Pinto[1]; Carolina Semião[1]; João Peixoto[1]; Marta Machado[1]; Alexandra Canedo[1]
1. CHVNG/E

Introduction
Carotid body tumors, also known as cervical paragangliomas, are the most common form of paraganglioma in the head and neck and are of both mesodermal and neuroectodermal origin. When malignant, they can metastasize to local lymph nodes, liver, lung, bone, and occasionally the brain, although metastases occur in no more than 5% of cases.

Case Presentation
We present a 43-year-old male, with no priors, that came to our consult with complaints of a painless right cervical mass. Ultrasound of neck vessels raised suspicion of a neck paraganglioma and a CT-scan was ordered, showing a synchronous carotid body tumor Shamblin type II on the right side and a Shamblin type I on the left, plus a mediastinal lesion, compatible with metastasis. PET 68Ga-DOTA-TOC was ordered confirming high capture of the radioactive agent on both neck as well as on mediastinal lesions. No stigma of hormonal hyperproduction was present. Hormone plasma and urinary concentrations were normal. Family history revealed an uncle with cervical paraganglioma. The right carotid body tumor (Shamblin type II) was excised and no arterial reconstruction was needed. The patient was discharged with no complications, including no clinically detected neurological injury, after 2 days. Histological analysis confirmed the diagnosis, with negative margins, and revealed loss of expression of SDH B. Genetic testing is currently awaited.

Conclusion
Familial cases are responsible for 10% to 20% of all carotid body tumors, they tend to be bilateral, occurring in a synchronous or metachronous fashion, with succinate dehydrogenase (SDH) B, C, and D germline mutations being predominant. This case is paradigmatic, not only for its' rarity but also for possible future implications a positive genetic testing might have in this patient's family.



PET 68Ga-DOTA-TOC

P26 / DUPLO TRATAMENTO ENDOVASCULAR DE COARTAÇÃO DA AORTA SUPRA-CELÍACA EM PACIENTE ADULTO — CASO CLINICO

Evelise Pinto[1]; Diogo Silveira[1]; Nuno Coelho[1]; Pedro Maximiano[2]; Ana Semião[1]; Joao Paulo peixoto[1]; Luis Fernandes[1]; Marta Machado[1]; Vitor Martins[1]; Alexandra Canedo[1]
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2. Hospital do Divino Espírito Santo

Introdução
A coartação da aorta (CoA) é uma anomalia congénita relativamente comum que ocorre em cerca de 40 a 50 casos por cada 100.000 nascimentos. Mais comum no sexo masculino (proporção de 3:1), é normalmente diagnosticada durante a infância e tradicionalmente tratada cirurgicamente, seja por aortoplastia com enxerto ou por resseção e anastomose termino-terminal.
Em 1982 a angioplastia aórtica com balão passou a ser usada em alternativa a cirurgia aberta. Entretanto, após vários relatos de reestenoses, o uso de endopróteses foi introduzido em 1990 tendo se apresentado com bons resultados a médio e longo prazo

Caso Clínico
Descrevemos o caso de uma doente do sexo feminino, 31 anos, raça negra, hipertensa (3 fármacos) sem antecedentes infeciosos conhecidos na infância que foi submetida a cirurgia de substituição de válvula mitral por insuficiência mitral severa idiopática e que no pós-operatório apresentou quadro de hipertensão refractrária e insuficiência cardíaca direita. Realizou angioTC que mostrou. CoA descendente distal isolada (estenose > 70% com dilatação da aorta visceral pós-estenótica, sem atingimento dos troncos supra-aórticos). Sem queixas de claudicação intermitente ou angina intestinal.

Após exclusão analítica de etiologia auto-imune e realização de tomografia por emissão de positrons (PET) que não mostrou atividade inflamatória aórtica, foi submetida a tratamento endovascular com *stent* recoberto expansível por balão (BeGraft Aortic 14x60 mm) por acesso femoral, com normalização das pressões de gradiente sistólico de 15 mmhg e resolução subsequente da hipertensão. No *follow-up* em angioTC após 1 ano identificou-se pseudoaneurisma da aorta na vertente proximal do *stent*, assintomático. Realizou nova PET para exclusão de etiologia infeciosa e foi submetida a novo tratamento endovascular com colocação de *stent* recoberto auto-expansível de baixa força radial com mínimo oversizing (Viabahn 13x50mm), sem balonamentos, com bom resultado.

Conclusão

O *stenting* primário de CoA tem se revelado uma opção eficaz e com significativa menor morbilidade em relação à cirurgia convencional (em especial na aorta torácica), levando a uma eficaz melhoria clínica e nos gradientes de pressões. Os resultados têm sido descritos como superiores aos da angioplastia isolada, demonstrando um benefício claro e mais duradouro no controlo da hipertensão arterial. O pseudoaneurisma está descrito como uma das suas possíveis complicações (precoce ou tardia), tal como neste caso, apesar de ter sido utilizado um *stent* recoberto. O planeamento, a correta seleção da tipologia e dimensões do material endovascular, assim como o *follow-up* clínico e imagiológico, são essenciais para garantir bons resultados.
Do nosso conhecimento, este foi o primeiro estudo a avaliar o impacto da cirurgia de varizes no FMD. Não foi possível estabelecer uma relação entre a cirurgia e a melhoria do FMD.

P27 / VENA CAVA AGENESIS: DIFFERENT CLINICAL PRESENTATIONS

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1. CHVNG/E

Introduction

The absence of the inferior vena cava (IVC) is an uncommon congenital anomaly and can be misdiagnosed.
It may be present as complete or segmental agenesis.
Most commonly involves the suprarenal segment (hepatic and infrarenal segment involvement only in 6%).
The most frequent clinical presentation is femoroiliac DVT. Less frequently, it can appear as venous claudication or venous ulceration secondary to venous hypertension.

Method, Material and Results

Clinical case 1:
Men,40 years, previously healthy.
Admitted with a 3 days history of disabling, unilateral lower extremity swelling and pain. No family history of thrombosis.

Physical examination: *swelling, bruising and tenderness involving left leg and thigh; acute prominent engorged abdominal collateral veins.*

Venous DUS: *left popliteal-femoro-iliac DVT from popliteal vein extending to common iliac vein.*

Veno- CT *(FIGURE 1): complete agenesis of the of the IVC; patent renal veins draining in to the azygous and hemi-azygous system.*
The patient was discharged with rivaroxaban and compression stockings. At 2 month follow up the patient is almost asymptomatic.

Clinical case 2:
Women, 35 years with a previous history of recurrent lower limb varicose veins surgery and left internal malleolar ulcer at 30 years
At 33 years referred ulcer recurrence and a veno-CT was order.

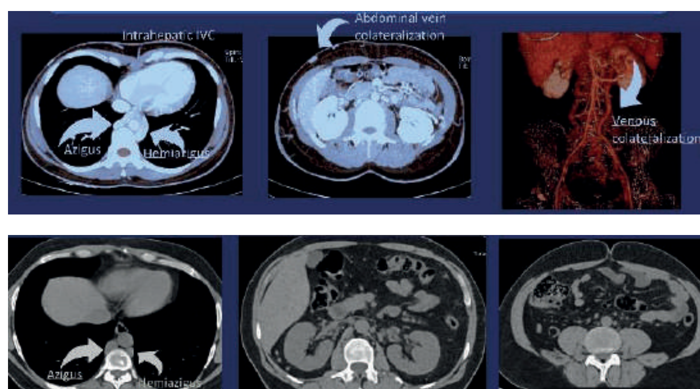
Veno-CT*(Figure2): infra-renal, renal and suprarenal, IVC agenesis with preservation of the intrahepatic segment. Exuberant collateralization (lumbar venous plexus draining into azygous and hemiazygous system; between epigastric veins and the internal mammary veins of right predominance).*
The patient initiated rivaroxaban.

*During the **follow-up** developed a right popliteal DVT, after inadvertent anticoagulation discontinuation, restarting hipocoagulation.*

Conclusion

In young patients with idiopathic femuroiliac DVT or recurrent venous ulceration an inferior vena cava anomaly should be considered.

Most cases have been effectively managed with anticoagulation and compression stocking. Venous recanalization by thrombolysis can be a good alternative particularly in these patients, due to their young age and high risk of long lasting disability. Venous bypass graft should be considered in case 2 if medical treatment fail.



P28 / ABDOMINAL AORTIC LACERATION BY VERESS NEEDLE IN LAPAROSCOPIC SURGERY — A DREADFUL COMPLICATION

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2. Centro Hospitalar do Tâmega e Sousa

Introduction

Most surgical procedures can be performed by laparoscopy, but the peritoneal cavity access and pneumoperitoneum creation methods are still a subject of debate due to its associated complications rates. A multicentre study reported an incidence of abdominal vessel injury of 1.05 in 1000 laparoscopic procedures(1). Furthermore, the mortality rate with major vascular injuries can achieve 15%(1).

Methods

Report of a case of iatrogenic abdominal aortic laceration by Veress needle insertion, successfully treated with open repair.

Results

A morbidly obese 47-year-old woman was proposed for elective sigmoidectomy by laparoscopy due to diverticular disease in a peripheral hospital. A Veress needle was used for pneumoperitoneum creation in the periumbilical area. Immediately after the initiation of insufflation, blood was noted around the needle insertion site and the patient's vital signs deteriorated. Resuscitative measures were initiated, and a laparotomy was performed which exhibited an abdominal aortic artery laceration. Proximal and distal control was obtained and vascular clamps put in place. The patient was transferred to our centre and immediately proceeded to the operative room. An aortic transversal laceration was noted 3 cm proximal to the aortic bifurcation. After complete aortic exposure and thrombectomy due to appositional thrombus, a patch repair was performed with great saphenous vein (FIGURE 1). Haemostasis was achieved and the peritoneal cavity was thoroughly inspected to exclude further injuries. A decision was made to perform bilateral fasciotomies in the lower limbs due to the ischemic injury time. The patient was admitted to the Intensive Care Unit and exhibited a favourable recovery.

Conclusion

Although laparoscopic associated vascular injuries are rare, specially involving the abdominal aorta, these are potentially fatal, and care must be taken to avoid them. A low threshold for conversion to open surgery, early recognition and treatment by specialized vascular surgeons are of major importance to diminish the morbidity and mortality of these iatrogenic lesions.

1. *Tambe SKaP. Entry Complications in Laparoscopic Surgery. J Gynecol Endosc Surg. 2009; 1:4–11.*

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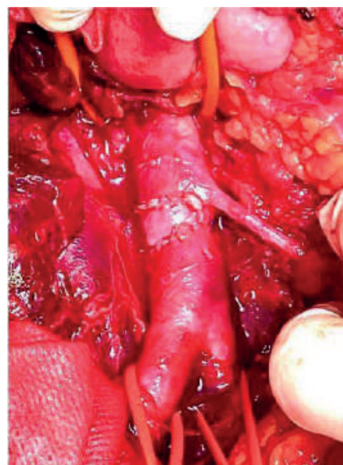

Figure 1 - Infrarenal aortic laceration repair using a saphenous vein patch.

P29 / UBERCULOUS PSEUDOANEURYSM: CLOSE SURVEILLANCE IS THE BEST WEAPON WHEN DEALING WITH AN UNCOMMON THREAT

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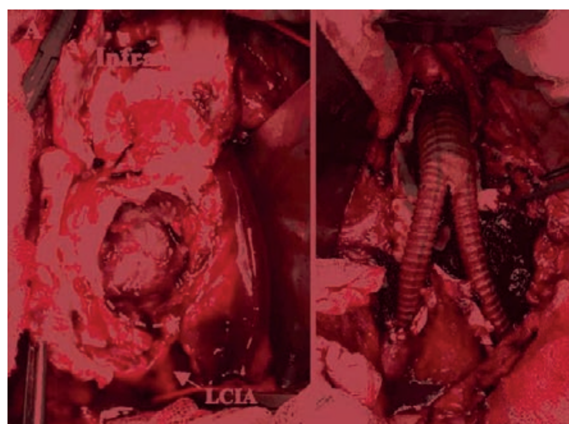
Introduction/Objective
Mycotic aneurysms/pseudoaneurysms are a diagnostic and therapeutic challenge, being associated with high morbidity and mortality. Tuberculosis infection rarely involves the arterial system, with few cases reported in the literature. Signs and symptoms of arterial involvement are insidious, requiring a high index of suspicion. Despite the use of modern anti-tuberculous therapy, disastrous complications like rupture or pseudoaneurysm formation can occur, highlining the need for early diagnosis, close vigilance, and prompt treatment. We present a rare clinical case of a tuberculous pseudoaneurysm.

Clinical Case
An 83-year-old man was admitted due to complaints of recurrent back pain over the last 5 months associated with constitutional symptoms. Ultrasound revealed a left retroperitoneal collection, better defined in computed tomography angiography (CTA) as a multiloculated left psoas muscle abscess associated with a perivascular fistulisation to the terminal aorta/proximal left common iliac artery posterior-lateral wall. A 6 mm diameter/6 mm depth arterial ulceration was visible at this level. Percutaneous drainage of the collection was performed and both the acid-fast bacillus test and the molecular test for M. tuberculosis DNA came back positive. The patient started immediately anti-tuberculosis treatment showing an impressive improvement of his clinical condition. 3-month CTA demonstrated complete resolution of the psoas collection and stability of the arterial ulceration. However, 6-month CTA revealed ulceration evolution to a 40 mm pseudoaneurysm. The patient did not report any change in symptomatology during this period. Considering the infectious aetiology, the decision was made for an open repair. Intraoperatively the pseudoaneurysm was excised revealing complete disruption of the arterial wall. Surrounding tissues (caseous necrotic tissues and pus) were thoroughly debrided. An aorto-biiliac interposition graft was performed using a 16 x 8 mm silver acetate/triclosan collagen-coated polyester graft (Intergard Synergy™ Getinge®). The histopathological report was caseating granulomatous inflammation consistent with tuberculosis infection. M. tuberculosis DNA test was also positive for the collected tissues. The postoperative course was uneventful and the patient continued on anti-TB drugs after the intervention. 6 months follow-up CT showed no pseudoaneurysm recurrence neither signs suggestive of graft re-infection.

Conclusion
Increased awareness and pursue of histological and microbiological diagnosis, associated with targeted medical treatment, combined with close surveillance, allowed this timely surgical treatment leading to this excellent outcome. Even though endovascular management (combined with prolonged antibiotic therapy) might be an option when dealing with mycotic aneurysms in poor surgical candidates, open surgical repair remains the first-line therapy in those who can tolerate it.



P30 / ISQUEMIA MESENTÉRICA AGUDA E CRÓNICA: DUAS FACES DA MESMA MOEDA

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Introdução
A isquemia mesentérica aguda (IMA) corresponde à cessação abrupta do fluxo sanguíneo mesentérico com desenvolvimento de sintomas com modo de início súbito (embolia) ou insidioso (trombose). O sintoma mais frequente é a dor abdominal intensa e desproporcional aos achados objetiváveis. O atraso de diagnóstico conduz a necrose intestinal, peritonite e taxas de mortalidade elevadas.
A isquemia mesentérica crónica (IMC) define-se como redução do aporte sanguíneo mesentérico, causando

sintomas com ≥3 meses de evolução. Tipicamente apresenta-se com dor pós-prandial, perda ponderal, aversão alimentar e/ou diarreia. Ocorre frequentemente em doentes ateroscleróticos.
A IMC agudizada define-se como um episódio de isquemia mesentérica aguda em doentes com sintomas crónicos prévios.
Os D-Dímeros têm elevada sensibilidade diagnóstica. O exame de eleição é a angio-TC com tempos venoso e arterial (protocolo trifásico).
Descrevem-se quatro casos semiologicamente distintos representativos das diferentes opções terapêuticas.

Caso 1: Homem, 69anos, ex-fumador, hipertenso, dislipidémico, DAP. Quadro de IMC (dor abdominal pós-prandial, perda ponderal 10Kg, diarreia, rectorragias) e Isquemia Grau III MID. Submetido a *bypass* aortobifemoral + *bypass* protésico-mesentérica superior (PTFE). Resolução dos quadros de isquemia mesentérica (recuperação ponderal, ausência de dor) e de DAP (pulsos distais bilateralmente). Quatro anos de seguimento, com permeabilidades de *bypasses*.

Caso 2: Homem, 58anos, ex-fumador. Quadro de IMC agudizada: dor epigástrica com 12 horas de evolução e náuseas. Realizou angio-TC revelando trombose da AMS. Submetido a trombólise da AMS e *stenting*. Dois anos de seguimento, com reversão das queixas e permeabilidade do *stent*.

Caso 3: Mulher, 80anos, FA hipocoagulada, HTA, dislipidemia, isquemia aguda dos membros inferiores (submetida a tromboembolectomia bilateral com sucesso), doença cerebrovascular e cardiopatia isquémica. Quadro de IMA: dor epigástrica com 4dias de evolução. Realizou angio-TC com trombose da AMS. Submetida a trombólise por cateter na AMS e *stenting*. Clinicamente bem aos seis meses de seguimento.

Caso 4: Homem, 78anos, HTA, dislipidemia, ex-fumador. Internado por IMC. Realizada arteriografia com oclusão intransponível da AMS e estenose do tronco celíaco, submetido a *stenting*. Decorrido um mês, mantém-se assintomático.

Conclusão
A isquemia mesentérica representa um desafio de diagnóstico e tratamento. As opções terapêuticas são múltiplas e englobam hipocoagulação, trombólise, antiagregação, revascularização endovascular, cirúrgica ou híbrida. É mandatória a avaliação da viabilidade intestinal, clínica, imagiológica e, se necessário, cirúrgica.
A colaboração interdisciplinar entre as diversas valências cirúrgicas e médicas é o corolário da excelência terapêutica. É necessário um elevado grau de suspeição clínica e celeridade na revascularização para contrariar uma morbimortalidade sombria *ad initium*.

P31 / DOENÇA ADVENTICIAL QUÍSTICA — UMA CAUSA RARA DE ISQUÉMIA DE MEMBROS INFERIORES

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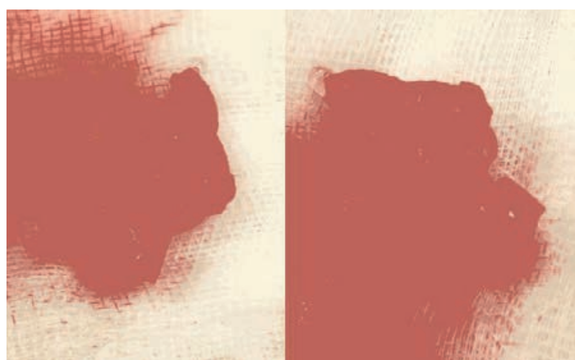
Introdução
A doença adventicial quística (DAQ) é uma patologia rara, de etiologia desconhecida, que se caracteriza por degeneração quística da túnica adventícia. Tendo a maioria dos casos sido reportados no sector arterial, envolvendo mais frequentemente a artéria poplítea, pode também raramente afectar o sector venoso.
A DAQ acomete principalmente indivíduos do sexo masculino (rácio 5:1) na sua 5ª década de vida e, na maioria dos casos, o envolvimento poplíteo é unilateral. Clinicamente, manifesta-se como isquemia, trombose ou dor, dependendo do território vascular acometido. A DAQ é responsável por aproximadamente 0.1% dos casos de claudicação dos membros inferiores.

Caso Clínico
Indivíduo do sexo masculino de 44 anos de idade, sem factores de risco ateroscleróticos, com história de traumatismo do membro inferior esquerdo (subluxação do joelho em acidente de moto). Desenvolveu queixas de claudicação gemelar esquerda de agravamento progressivo ao longo dos dois meses antecedentes, claudicando, à data de apresentação, para 50 m em marcha, em plano. Ao exame objectivo com todos os pulsos palpáveis nos membros inferiores, apesar de um pulso pedioso esquerdo diminuído comparativamente ao direito, não alterado com a flexão do joelho. Em repouso, o ITB era de 1.05 , quer com extensão ou flexão do membro. Em ecodoppler *triplex scan*, evidenciava-se estenose da artéria poplítea, condicionando estenose >70% por critérios morfológicos, e >50% por critérios hemodinâmicos. Foi pedida angioTc complementar que confirmou estenose pré oclusiva do 2º segmento da artéria poplítea esquerda, notando-se também espessamento inespecífico e difuso da poplítea no seu segmento proximal.

Foi submetido a exploração da artéria poplítea por abordagem posterior. Durante a exploração, foi evidente a

presença de fibrose peri-vascular, dificultando os planos de clivagem com as restantes estruturas, assim como uma parede arterial endurecida mas sem evidência exterior de quistos. Procedeu-se à ressecção segmentar da poplítea (desde a sua origem no canal de Hunter até à transição para P3) e interposição poplítea – poplítea com veia grande safena homolateral em posição invertida. Macroscopicamente, na transecção arterial, identificou-se uma infiltração gelatinosa multilocular. O exame anátomo-patológico confirmou ou diagnóstico de DAQ. O doente teve alta ao 2º dia de pós operatório com pulsos distais simétricos. No primeiro mês, em ecodoppler de controlo, não foram identificadas recorrências mas aos 6 meses, embora clinicamente assintomático, identificou-se estenose <50% (PSV 120cm/s). Mantém seguimento periódico e tratamento com antiagregação plaquetária.

Conclusão
A DAQ deve ser considerada no diagnóstico diferencial da isquémia crónica dos membros inferiores em doentes jovens sem factores de risco ateroscleróticos.
A vigilância clínica e imagiológica pós-operatória é necessária devido ao risco de recorrência da doença, independentemente da técnica cirúrgica utilizada.



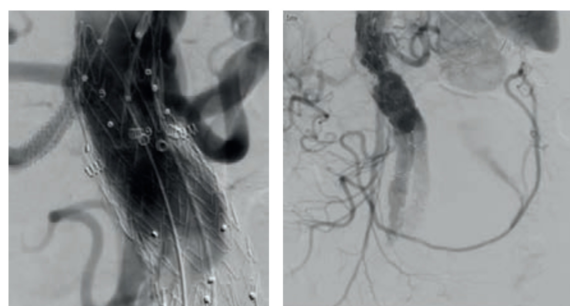
P32 / ONE LARGE AORTIC ANEURYSM: PUSHING THE ENDOVASCULAR BOUNDARIES

Luís Fernandes[1]; Diogo Silveira[1]; Nuno Henriques Coelho[1]; Pedro Maximiano[1]; Evelise Pinto[1]; Carolina Semião[1]; João Peixoto[1]; Marta Machado[1]; Miguel Lobo[1]; Alexandra Canedo[1]
1. CHVNG/E

Introduction
The endovascular approach to aortic abdominal aneurysms (AAA) has evolved since its' first days, from simple infrarenal AAA with long straight healthy necks to complex AAA involving the visceral aorta. New entities arose such as endoleaks (EL). We are now in an era that not only the primary treatment is done by endovascular surgery, but also the complications that come with it, specially in cases of patient deemed unfit for open surgery (OSR) and an endograft explantation. As experience comes, so does the materials and ability to push what once seemed to be the limit.

Case presentation
We present an85-year-old woman with a large 10 cm infrarenal aortic aneurysm that presented to the emergency room with sudden abdominal pain. Due to multiple comorbidities and age, she was considered unfit for OSR. She was hemodynamically stable. Adequate anatomy was present and standard infrarenal EVAR using a Medtronic Endurant II was performed with no complications to prevent rupture. One and a half years later, the patient developed a type Ia EL with aneurysm growth, corrected with a proximal aortic cuff plus chimney to the right renal artery and endoanchors. Six months later during follow-up CT, the EL was still present, originating probably from the gutter (type IA) and IMA (type II) Selective catheterization of the gutter and deployment of 3 Medtronic Concerto 3D detachable coils through left brachial access was performed with resolution of the proximal leak and showing a co-existing high flow type II EL from the IMA. Due to the long procedure time and high dosing of contrast administration we opted for the correction of the type II EL in a separate intervention. Through a femoral access (adding the benefit of a shorter distance), catheterization and placement of a 6F RDC sheath for support via SMA, a 4F catheter and a Progreat Microcatheter were advanced through the Riolan's arch to the IMA. Sac angiography showed absence of other significant afferences so a liquid embolization agent wasn't considered. Three pushable 5 mm coils were deployed at the ostium the IMA with resolution of the entire EL.

Conclusion
As described in literature, very large aortic aneurysms have a higher rate of proximal endoleaks, either because of endoprothesis migration, but also because of neck degenerecence. This is a paradigmatic case of such data. Several complex techniques were used, such as chimneys, endoanchors, coilling through gutters and navigating very long distances through natural arterial shunts.



P33 / DISSECÇÃO AÓRTICA DO TIPO B COMPLICADA POR FALSO ANEURISMA

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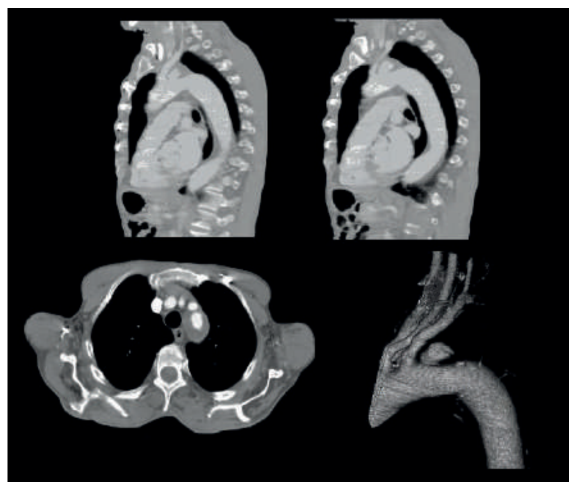
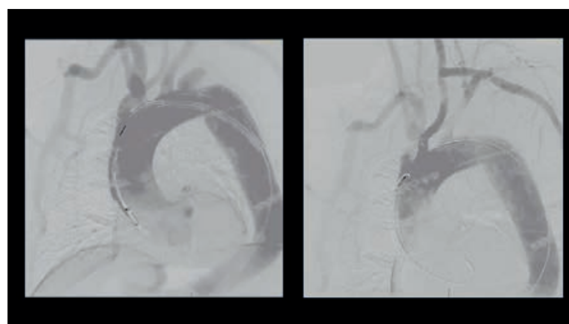
Introdução
Na última década, as opções terapêuticas para doentes com patologia da aorta torácica, foram alvo de foco e inovação. A complexidade anatómica deste sector arterial constitui um desafio técnico e, actualmente, o tratamento híbrido das doenças do arco aórtico demonstrou ser uma alternativa viável à cirurgia convencional, esta última associada a altas taxas de morbimortalidade peri e pós-operatória.O advento de técnicas de derivação dos troncos supra-aórticos associadas a técnicas de revascularização aórtica endovascular possibilitou a intervenção de doentes até outrora sem critérios de intervenção bem definidos, além de menos invasivas.

Caso Clínico
O seguinte caso clínico foca-se num indivíduo do sexo masculino de 68 anos de idade, previamente saudável até há 3 anos, altura em que sofreu um politraumatismo grave ao ser atacado por um boi. Foi admitido em contexto hospitalar, necessitando de fixação de múltiplas fracturas de arcos costais e do esterno, drenagem de pneumotórax bilateral e esplenectomia.
Aproximadamente dois anos após o sucedido, dá novamente entrada no SU do mesmo hospital por quadro clínico caracterizado por dor torácica com irradiação dorsal. Nessa data é diagnosticada hipertensão arterial, assim como com dissecção aórtica tipo B de Stanford, imediatamente após a emergência da artéria subclávia esquerda (ASE), sem compromisso de membros ou órgãos, com indicação para tratamento conservador.
Em angio-TC de controlo, após um ano, com evidência de dissecção complicada por falso aneurisma com 31x30mm de diâmetro, parcialmente trombosado (lúmen permeável com 16x16mm de diâmetro). Até essa data assintomático e sem intercorrências.
Foi submetido a *bypass* carotideo-subclávio esquerdo com prótese de PTFE anelada 8.0mm e TEVAR (Gore C-TAG® 34x34x100mm) com selagem na zona 2 do arco aórtico, segundo classificação de Ishimaru-Mitchell, por via femoral comum direita (lateralidade com anatomia mais favorável ao procedimento). Em arteriografia final, evidência de permeabilidade aórtica, do *bypass*, da artéria vertebral esquerda através da ASE, assim como exclusão bem sucedida do falso aneurisma.
O doente esteve internado por 6 dias no hospital, tendo alta ao quinto dia de pós-operatório, com boa evolução clínica e sem intercorrências. Aguarda, à data, consulta de pós-internamento.

Conclusão
A abordagem híbrida no tratamento de patologia do arco aórtico encontra-se em constante inovação, demonstrando ser uma alternativa viável, menos invasiva e com menor taxa de morbimortalidade.





P34 / EXTRACRANIAL INTERNAL CAROTID ARTERY ANEURYSM: SURGICAL TREATMENT OF AN UNCOMMON CAROTID DISEASE

Nuno Henriques Coelho[1]; Ricardo Gouveia[1]; Victor Martins[1]; Evelise Pinto[1]; Carolina Semião[1]; João Peixoto[1]; Luís Fernandes[1]; Marta Machado[1]; Alexandra Canedo[1]
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Introduction
Extracranial carotid artery aneurysms (ECAAs) are infrequent, with an incidence of 0.4-4% of all aneurysms.

Most cases are asymptomatic and diagnosed incidentally. ECAAs natural history, indication for intervention and best treatment are not well defined due to its rarity. However, these aneurysms pose a high risk for neurological thromboembolic events, with the first ECAA manifestation being a TIA/stroke in up to 40% of patients. Cranial nerve compression can also occur, with rupture being exceedingly rare. We present a case of a type I ECAA (Attigah Classification) submitted to surgical repair.

Clinical Case

A 68 years old woman was referred to our outpatient clinic due to a pulsatile mass at the left side of the neck along with dysphagia. No history of trauma was present. The patient was submitted to a colour Duplex scan which revealed an isolated aneurysm of the internal carotid artery (ICA). A computed tomography angiography followed showing a 23 mm maximum diameter ICA aneurysm, with intraluminal thrombus, located 2 cm above the carotid bifurcation. The ICA was kinked distally to the aneurysm. The anatomy of the aneurysm made endovascular exclusion impossible, due to the ICA kinking, but facilitated open repair considering that both the proximal and the distal part of the ICA were displaced laterally and in close proximity with each other. The aneurysm was ligated proximally and distally and easily dissected from adjacent structures. Considering that the ICA was redundant, a primary end-to-end reconstruction was performed with a single anastomosis. The postoperative course was uneventful with no neurological events or signs/ symptoms of nerve damage. Histopathological analysis was consistent with atherosclerotic degeneration.

Conclusion

ECAA are rare but may cause serious morbidity when not timely treated. The lack of evidence-based treatment guidelines may offer a dilemma to the treating physician when deciding on an intervention. When treatment is indicated due to aneurysm dimension/thromboembolic risk, accessibility of the ECAA is the key issue. The decision was made for an open intervention based on the patient low surgical risk, ECAA accessibility and favourable anatomy. Nevertheless, the results of an international multicenter registry are lacking in order to reveal the optimal treatment and long-term outcome of invasive ECAA treatment.

P35 / VARIAÇÕES ANATÓMICAS DO ARCO AÓRTICO E SEUS RAMOS

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Introdução

As variações do arco aórtico são nu[1]merosas e podemos encontrar descritos na literatura 8- 15 tipos. O arco aórtico direito está presente em 0,05% população.
A artéria subclávia esquerda aberrante com divertículo de Kommerell ocorre em 0,4-2,3%. A subclávia aberrante passa posteriormente ao esófago em 80% dos casos, entre o esófago e a traqueia em 15% e anteriormente à traqueia em 5%. Apenas 5% dos doentes são sintomáticos. O termo disfagia lusória é usado para descrever disfagia secundária a compressão vascular. O divertículo de Kommerell tem indicação cirúrgica se sintomático ou com diâmetro >55mm, pelo risco de rotura.
O padrão de arco aórtico com Tronco Bovino (origem comum das Artérias Carótidas Comuns) e artéria subclávia direita aberrante tem prevalência de 0,7%.

Caso 1:

Homem, 72anos, variação congénita com arco aórtico direito, artéria subclávia esquerda aberrante de trajecto retro-esófágico, divertículo de Kommerell (28x26mm), com desvio da traqueia e compressão extrínseca do esófago. Sem isquemia do MSEsq, sem dispneia nem disfagia.

Caso 2:

Mulher, 36anos, com arco aórtico direito e artériasubclávia esquerda aberrante de trajecto retro-esófágico. Discreta disfagia lusória esporádica para líquidos, por compressão esofágica exercida pelo arco aórtico. Atendendo a sintomatologia frustre face à complexidade da intervenção, foi decidido tratamento conservador.

Caso 3:

Mulher, 74anos, com diferença tensional nos membros superiores (E>D), sem sinais de isquemia do MSDto, sem disfagia. Presença de Tronco Bovino e artéria subclávia direita aberrante, comprimida no seu trajecto entre a coluna e o esófago.

Conclusão

A crescente realização de exames imagiológicos condiciona o diagnóstico cada vez mais frequente destas anomalias, que são causa de referenciação à consulta de Cirurgia Vascular. Assim, é fundamental que sejam reconhecidas para que possam ser adequadamente orientadas.

A maioria das variações é tratada conservadoramente, mas a sua presença pode condicionar risco cirúrgico aumentado em abordagens cervicais, pelo que devem ser do conhecimento do cirurgião para planeamento pré-operatório seguro.

P36 / SURGICAL CORRECTION OF A NON-A NON-B AORTIC DISSECTION: A TWO-STAGE APPROACH – CASE REPORT

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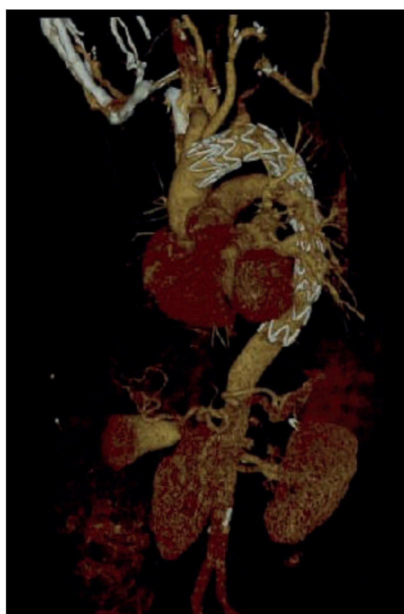
Introduction
Traditionally, the majority of patients with Stanford type B, or non-type A, acute aortic dissection are treated with best medical treatment (BMT), as it represents the cornerstone of their management during the acute phase.
Thoracic endovascular aortic repair (TEVAR) for thoracic aortic disease represents a pivotal role in the treatment of aortic dissection, as well as thoracic aortic aneurysms. Furthermore, TEVAR has been reported to be safe and effective in preventing aortic enlargement and promoting thrombosis of the false lumen at long-term follow-up.
However, in the endovascular era, open surgical treatment continues to improve, being well established and recognized as a gold standard in a considerable number of clinical scenarios, such as the extrathoracic bypass of symptomatic dissection of the subclavian arteries, which has become the preferred option for revascularization.
In this particular clinical case, the symbiosis of both open and endovascular approaches has proven to be a successful two-stage surgical plan to correct a non-A non-B aortic and left subclavian dissections.

Case Report
A 56 years-old male came to the emergency department presenting with sweating, malaise, chest pain, with irradiation to the back, and elevated blood pressure. A diagnostic computed tomography angiography (CTA) scan revealed a Non-A Non-B Aortic Dissection with origin in the left subclavian artery (LSA) ostium. This dissection continues to the abdominal aorta, up to the plan of the renal arteries. The celiac trunk (CT), superior mesenteric artery (SMA) and both renal arteries have their origin in the true lumen, such as the iliac arteries. The patient was submitted to BMT in the acute phase. Six months later, it was performed a two-stage surgical approach: initially, a left common carotid- left subclavian prosthetic PTFE bypass graft; then, it was deployed a conduit with a scallop to the left common carotid artery.The post-operative CTA revealed thrombosis of the false lumen, without endoleaks. The patient was discharged asymptomatic.

Conclusion
Open and endovascular surgery are feasible and complement each other in complex Non-A Non-B aortic dissection cases. Thus, this two-stage approach is associated with clinical improvement, acting as synergistic procedures. Further follow-up will assess the long-term patency of the surgical intervention.



P37 / HEMODIALYSIS ACCESS INDUCED SUPERIOR VENA CAVA SYNDROME

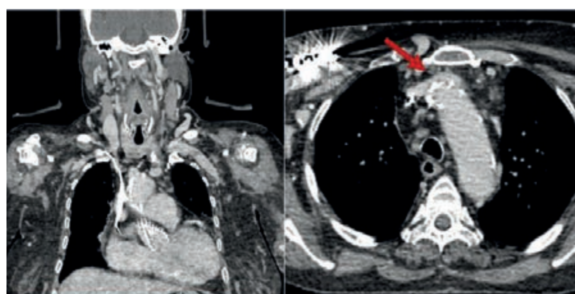
Luís Fernandes[1]; Diogo Silveira[1]; Nuno Henriques Coelho[1]; Pedro Maximiano[1]; Evelise Pinto[1]; Carolina Semião[1]; João Peixoto[1]; Marta Machado[1]; Vitor Martins[1]; Alexandra Canedo[1];
1. CHVNG/E

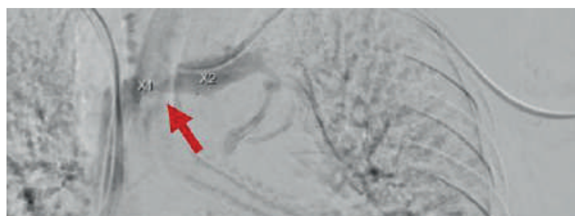
Introduction
Superior Vena Cava Syndrome is caused by severe obstruction of the outflow of head and neck vein due to occlusion of the superior vena cava (SVC) or innominate veins. Treatment for SVC syndrome involves creating outflow for the congested veins in the head and neck.

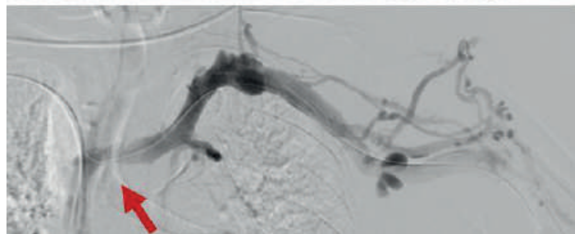
Case presentation
We present a 69-year-old woman, with history of definitive pacemaker placed a few years before in the right subclavian vein, end stage chronic kidney disease in hemodialysis (HD) through an left umero-axillar AVG created 2 months before presentation of symptoms. She was referenced to us due to head and neck congestion symptoms

with exuberant collateral circulation. The HD access was adequately functionate and contributing for the increase in venous hypertension. Venous CT was performed and showed the presence of pacemaker wire on the right side with occlusion of the right brachiocephalic venous trunk (BCVT), and indirect signs of venous stasis and hypertension, like an enlarged right internal jugular vein, contrast stasis on the right subclavian vein and collateral circulation, and a stenosis on the left BCVT (AVG side).
Diagnostic venography was performed and a single, morphological significant lesion in the BCVT was found. High pressu, re balloon angioplasty with a Mustang Balloon Catheter up to 24 atm was performed with good response without need for stenting.

Conclusion
This is an atypical case on a patient with a HD access induced SVC syndrome.
Patients with history of multiple catheters should raise a high level of suspicion for such entities In these, venography should be considered because access creation may induce a SVC syndrome previously undetected. Endovascular treatment for both acute and chronic SVC occlusion has become the first line of treatment for most patients because of less invasiveness and earlier recovery. Relief from frequently incapacitating symptoms of venous congestion of the head and neck is almost instantaneous.







P38 / DOENÇA ADVENTICIAL QUÍSTICA DA ARTÉRIA POPLÍTEA

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Introdução
A doença adventicial quística da artéria poplítea é uma doença rara e de etiopatogenia não totalmente esclarecida, caraterizada pela formação de múltiplos quistos de conteúdo mucionoso, na túnica adventícia. A artéria poplítea é o vaso mais frequentemente acometido, mas a doença está descrita em outras artérias e veias. Esta patologia deve ser considerada no diagnóstico diferencial de pacientes jovens com claudicação intermitente e sem fatores de risco para doença arterial periférica. A sua apresentação como isquemia aguda de membro é ainda mais incomum.
Existem várias opções terapêuticas, nomeadamente, a excisão da túnica adventícia, a aspiração percutânea dos quistos e a exérese segmentar da artéria com interposição de enxerto venoso.

Material e métodos
Apresentamos um caso de isquemia aguda de membro causada por doença adventicial quística da artéria poplítea.

Caso Clínico
Doente do sexo feminino com 47 anos de idade, observada no Serviço de Urgência por quadro clínico compatível com isquemia aguda do membro inferior esquerdo. Avaliada por Eco-Doppler que revelou uma oclusão segmentar da artéria poplítea esquerda. Realizou angio-TC que confirmou a oclusão da artéria e imagem sugestiva de quistos adventíciais, comprimindo o lúmen arterial.
A doente foi submetida a intervenção cirúrgica por abordagem posterior da artéria poplítea, resseção do segmento arterial atingido e reconstrução com enxerto de veia pequena safena homolateral invertida. Após o procedimento a doente apresentava pulso tibial posterior e pedioso palpáveis.
Aos 24 meses de *follow-up* a doente encontra-se assintomática sem evidência imagiológica de recidiva.

Conclusões
Devido à raridade da doença, não existem estudos que comparem as diferentes estratégias terapêuticas. No entanto, quando há oclusão arterial, a resseção arterial com reconstrução com veia é a técnica cirúrgica recomendada, associando-se a bons resultados

em termos de permeabilidade e baixa taxa de recidiva. O uso da veia pequena safena apresenta a vantagem de apenas ser necessário uma única incisão.

P39 / IATROGENIC UMERAL ARTERY CONTUSION FOLLOWING CLOSED REDUCTION AND PINNING OF THE HUMERUS

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Introduction
Supracondylar humeral fracture (SHF) is the most common elbow fracture in the pediatric population. It may present with various degrees of bone displacement and is usually classified according to the Gartland classification. These fractures are associated with neurovascular complications in a significant number of patients and vascular compromise is present in 3-14%of cases. It usually recovers after fracture reduction, persisting in about 28% of patients. Its clinical presentation can range from absence of symptoms to severe hand ischemia. Less often, vascular compromise occurs as a consequence of the orthopaedic treatment. The authors report a case of brachial contusion related to fracture reduction maneuvers and percutaneous fixation.

Case Description
A 6 year-old girl was referred to a tertiary centre due to SHF following a fall associated to an outstretched left hand. Radiographs in two planes showed posterolateral displaced Gartland type 3 supracondylar humeral fracture requiring surgical correction. The vascular examination before surgery was unremarkable, with bilateral, symmetric palpable radial pulses. Under general anesthesia, the child underwent a closed reduction and external fixation with Kirshner wires, with a satisfactory result, but immediate postoperative physical exam revealed signs of hypoperfusion with delayed capillary filling and absence of left distal pulses. Neurologic impairment was not evaluated because the patients was still under general anesthesia. On continuous wave Doppler, radial, cubital and palmar arch flows were undetectable, so immediate surgical exploration was decided. Exploration at the antecubital fossa revealed significant hematoma, free bone fragments and brachial artery focal contusion with underlying intimal tear. Thromboembolectomy followed by segmental artery resection and an end-to-end anastomosis with interrupted sutures was performed. Triphasic spectral Doppler waveform was recorded in the left radial artery at the end of the surgery. The postoperative period was uneventfull. On follow-up, the patient presented a full recovery with no residual functional or neurovascular sequelae.

Discussion
This case illustrates an uncommon complication of supracondylar humeral fracture surgical treatment. Vascular complications associated with SHF usually present before orthopaedic treatment and disappear after fracture reduction. The onset of ischemia after fracture reduction is uncommon and relates to the blunt trauma caused by reduction maneuvers, fixation, bone fragments and overstretching. Early recognition of neurovascular injuries is crucial, whereby a vascular examination before and after orthopaedic surgery should be advocated even in those who do not present ischemia preoperatively. In the case presented, early recognition allowed a prompt treatment in a single surgical time and minimized the period of ischemia.

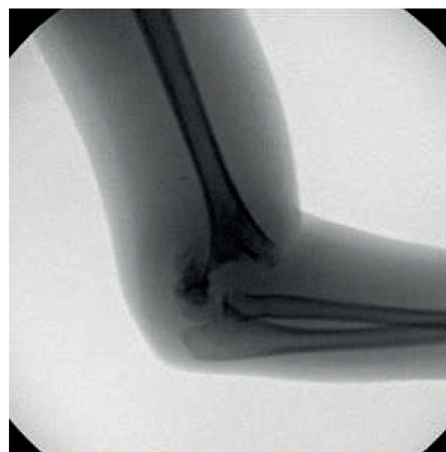
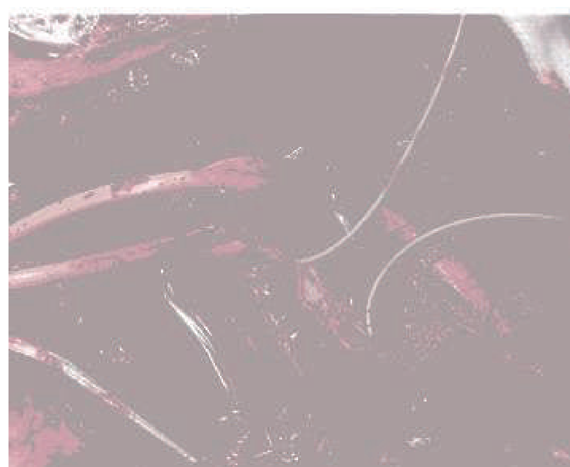


Figure 1 - Radiograph showing Gartland type 3 SHF



P40 / PSEUDOANEURISMAS VISCERAIS E O PAPEL DO TRATAMENTO ENDOVASCULAR

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Introdução
Os pseudoaneurismas viscerais são dilatações patológicas das artérias viscerais e/ou dos seus ramos. São no seu conjunto uma entidade rara mas de consequências devastadoras dado o seu elevado potencial de rutura e hemorragia. A evolução das técnicas endovasculares alterou o paradigma no tratamento desta entidade, tornando-se a opção preferida para o tratamento eletivo dos pseudoaneurismas viscerais em localização anatómica adequada.

Caso clínico
É descrito o caso de um pseudoaneurisma pancreático num doente jovem do sexo masculino, com antecedentes de pancreatite crónica e pseudoquisto pancreático, hábitos tabágicos e alcoólicos marcados, que se apresentou como dor abdominal e queda de hemoglobina. Após discussão do caso com a equipa de Cirurgia Vascular, é decidido tratamento endovascular dada a estabilidade clínica do doente e localização anatómica apropriada para a intervenção proposta. Foi realizada embolização com *coils* do falso aneurisma via artéria umeral, com sucesso angiográfico imediato, e melhoria clínica, analítica e imagiológica no pós-operatório.

Conclusão
À cirurgia aberta e laparoscópica acrescem os procedimentos endovasculares no tratamento dos pseudoaneurismas viscerais, pelo que o cirurgião vascular deve estar familiarizado com as estratégias disponíveis tendo em conta o doente, as características e localização do pseudoaneurisma visceral.

P41 / CATETERIZAÇÃO ACIDENTAL DA ARTÉRIA CARÓTIDA COMUM NUM DOENTE COVID+

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Introdução
A obtenção de um acesso venoso central é um dos procedimentos mais comuns e úteis no meio hospitalar, sendo essencial nos doentes críticos. De entre os riscos associados, a cateterização acidental da artéria adjacente, embora uma complicação rara, pode levar a consequências devastadoras. Apesar da melhor estratégia terapêutica consistir na remoção do cateter venoso em posição arterial e subsequente compressão manual, a mesma não pode ser aplicada em todos os territórios, nomeadamente na região cervical, ou devido a determinantes do doente como anticoagulação.

Caso clínico
É apresentado o caso de um homem de 70 anos com antecedentes de cardiopatia isquémica, hipertensão arterial, diabetes tipo 2 e obesidade, diagnosticado com Pneumonia por SARS-CoV-2 e transferido para uma UCI após agravamento clínico marcado. Ao segundo dia de internamento na UCI, detetada inserção acidental de cateter venoso central de 4 lumens (8.5 French) na artéria carótida comum direita (ACC). Considerando a presença do corpo estranho intra-arterial foi decidido intervenção cirúrgica convencional para a sua remoção. Verificou-se punção transfixiva da veia jugular externa direita e cateterização da ACC ipsilateral na face antero-externa. Após controlo proximal e distal da ACC e heparinização sistémica, o cateter foi removido e efetuada arteriorrafia e venorrafia com polipropileno 6-0. Ao 20º dia após a intervenção, o doente estabilizou do ponto de vista respiratório e foi extubado, verificando-se a ausência de qualquer défice neurológico, sem desenvolvimento de hematoma cervical ao longo do período de pós-operatório. Ao eco-Doppler carotídeo de *follow-up*, cerca de dois meses após a intervenção, os eixos carotídeos apresentam-se permeáveis e sem imagens suspeitas de falso aneurisma, estenose, trombose ou disseção.

Conclusão
O reconhecimento precoce e a rápida resposta por parte da equipa de Cirurgia Vascular foram fundamentais para o desfecho sem sequelas, num doente com risco aumentado de complicações dado o estado pro-trombótico e disfunção endotelial que comumente complica a infeção por SARS-CoV-2.

P42 / MYCOTIC AORTIC ANEURYSM RUPTURE EXPOSING THE SPINE

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Introduction

Mycotic aneurysms comprise about 1% of all aortic aneurisms and can be caused by hematogenous dissemination or contiguous spread of an adjacent infection. They carry a high risk of rupture and death and might be completely asymptomatic.

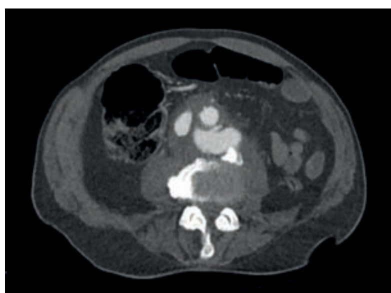
Case Description

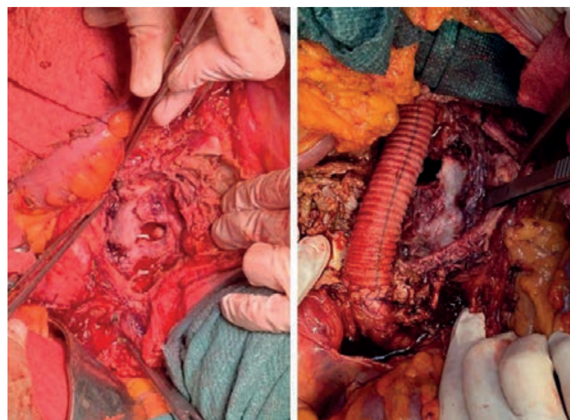
A 79-year-old male with no relevant prior medical history was admitted in the emergency room after a sudden abdominal pain and lipothymia. On contrast enhanced CT a ruptured 10 cm infrarenal abdominal aortic aneurysm was identified, with multilobulated appearance and a hazy aortic wall (FIGURE 1), suggestive of mycotic etiology, and with an anatomy not amenable to repair by EVAR.

Upon surgical exploration, a posterior aortic rupture was identified with exposure of lumbar vertebrae and complete destruction of intervertebral discs (FIGURE 2A). Despite these findings no major signs of infection were apparent. After extensive debridement, in-situ repair was decided and an aorto-aortic Dacron graft interposition was performed (FIGURE 2B). Tissue biopsies of aortic tissue and surrounding soft tissues were sent to analysis but returned negative. Intraoperative consultation with neurosurgery deemed primary spinal surgery not recommended at that point. A post-operatory MRI scan (FIGURE 3) revealed spondylodiscitis of L2-L3 with an extensive psoas abscess. No agent was identified after multiple systemic and radiologically guided drainages and cultures. Post-operatory period was complicated with prolonged ventilation, need for hemodialysis and multiorgan failure leading to death.

Conclusions

The optimal management of mycotic aneurysms is dependent on its timely diagnosis and treatment. Open surgery is still the gold standard and should comprise resection of the aneurysm and extensive tissue debridement, with both in-situ or extra-anatomic revascularization being acceptable. The infectious agent is not identified in up to 40% of patients, and broad-spectrum antibiotics should be implemented as soon as cultures are secured. In the presented case, contiguous infection originating from lumbar vertebral spondylodiscitis was presumed due to radiological findings, but the causal agent could not be identified.





P43 / ISQUÉMIA MESENTÉRICA CRÓNICA

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Introdução/Objectivos

A isquemia mesentérica crónica é uma causa incomum de dor abdominal pós-prandial, mas um importante diagnóstico diferencial nas faixas etárias mais avançadas, principalmente quando associada a múltiplos factores de risco cardiovasculares. Apesar de a aterosclerose nos vasos mesentéricos ser um achado incidental comum, as manifestações clínicas de isquemia intestinal crónica são incomuns. O diagnóstico baseia-se na clínica, exclusão de outras causas de dor abdominal, e a presença de estenose/oclusão de pelo menos 2 vasos mesentérios.

Metodologia

Doente do sexo feminino, 80 anos, com antecedentes de miocardiopatia hipertrófica, HTA e dislipidemia. Recorre ao SU por um quadro de dor abdominal difusa pós-prandial com irradiação dorsal, acompanhada de perda ponderal de 14kgs. Refere um período de evolução de cerca de 2 meses, com agravamento progressivo.

Realiza AngioTC que revela oclusão do TC e estenose >90% da AMS proximal com 4cm de extensão. Foi avaliada por cirurgia geral e gastroenterologia com exclusão de outras etiologias. Submetida a angiografia que confirma o diagnóstico e realizado tratamento no mesmo procedimento: angioplastia com balão seguida de implantação de *stent* expansível em balão na AMS. Sem intercorrências intra-operatórias. Tem alta no 1º dia de pós-operatório, medicada com dupla anti-agregação plaquetária durante 1 mês. Refere melhoria imediata das queixas. Seguimento aos 3 meses, sem recidiva da dor, sem alterações do transito intestinal e aumento ponderal.

Conclusão

A angioplasia e *stenting* mesentéricos constituem a primeira linha terapêutica nos doentes com isquemia mesentérica crónica. O tratamento endovascular está associado a altas taxas de sucesso técnico, alta taxa de resolução das queixas e baixa morbimortalidade. O alvo de revascularização é habitualmente a AMS.

P44 / PSEUDOANEURISMA DA ARTERIA RADIAL APÓS CORONARIOGRAFIA

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Introdução

A revascularização coronária por via transradial é comum pela reduzida taxa de complicações comparativamente ao acesso femoral[1]. Ainda assim podem surgir complicações como a formação de um pseudoaneurisma (PA). Este difere de uma verdadeiro aneurisma na medida em que não possui as três camadas da parede arterial. Em seguida descreve-se o caso de formação de um PA após duas coronariografias por via transradial.

Caso Clínico

Doente 62 anos, género feminino, com antecedentes de FA, miocardiopatia hipertrófica, IC, HTA, dislipidemia, DM tipo II, tabagismo, submetida a duas coronariografias, intercaladas por 6 meses, por acesso radial esquerdo com introdutor 6Fr e com compressão mecânica com PreludeSync, desenvolveu uma massa pulsátil no punho sendo referenciada ao Serviço de Angiologia e Cirurgia Vascular. No exame físico com massa pulsátil dolorosa e expansível com sopro, sem parestesias ou sinais de isquemia de mão. No ecodoppler apresentava um diâmetro longitudinal de 2,2cm, com colo estreito e com fluxo turbulento tipo "ying-yang", compatível com PA. Assim foi submetida a ressecção do PA com encerramento primário sem intercorrências. Na consulta de reavaliação mantinha-se assintomática e com pulso radial.

Discussão

Um PA manifesta-se como uma massa pulsátil, associada ou não a dor local, edema da mão, neuropatia ou isquemia se a sua dimensão for exuberante[2].

O ecodoppler é fundamental para realizar o diagnóstico diferencial com outras patologias como o hematoma.

Devido aos raros casos descritos não existe um consenso para tratamento[3].

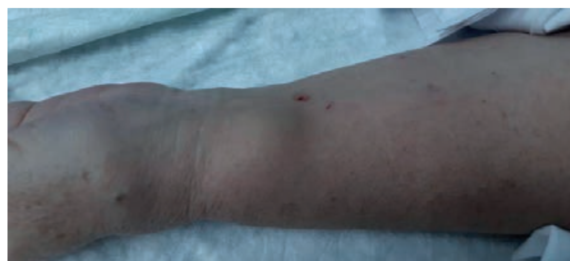
A abordagem conservadora é sugerida em doentes assintomáticos com PA de pequenas dimensões (<10mm de diâmetro) através da compressão com sonda ecoguiada ou através da injeção de trombina no saco aneurismático nos PA de colo estreito[4]. Contudo, a compressão com sonda é desaconselhada pelo risco de rutura nesta localização superficial e pela baixa eficácia em doentes hipocoagulados[5].

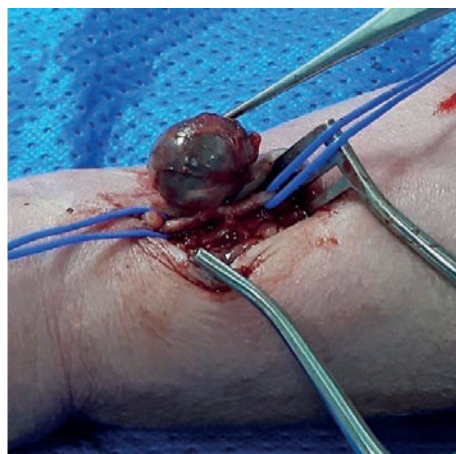
Relativamente às técnicas endovasculares, a embolização ou a exclusão endovascular do PA com *stent* coberto[6] é uma opção descrita com sucesso mas que necessita de mais estudos.

O tratamento cirúrgico está indicado quando a abordagem conservadora é insuficiente, para PA de grande dimensão (>10mm), PA com rápido crescimento, PA infetados e se condicionarem sinais de isquemia, neuropatia ou necrose. A intervenção poderá passar pela laqueação da artéria radial com ressecção do PA se o influxo para a mão pela artéria cubital for satisfatório, a rafia primária ou a reconstrução topo-a-topo ou com interposição de enxerto consoante as características do PA.

Conclusão

A formação de PA poderá ocorrer após intervenção coronária por via transradial, de modo que é essencial um diagnóstico precoce para evitar complicações graves. O tratamento poderá ser conservador ou cirúrgico consoante as características morfológicas do pseudoaneurisma e sintomatologia associada.





P45 / A PERCEÇÃO SUBJETIVA E AVALIAÇÃO OBJETIVA DA DISTÂNCIA CAMINHADAEM DOENTES COM DAP E CLAUDICAÇÃO INTERMITENTE

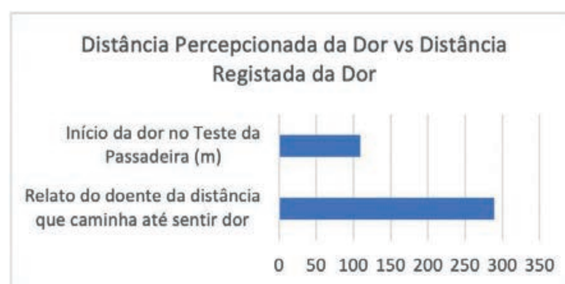
Susana Pedras[1]; Rafaela Oliveira[1]; Carlos Veiga[1]; Hugo Paredes[2]; Ivone Silva[1]
1. CHUPorto;
2. UTAD

Introducão
A claudicação intermitente (CI) é um dos sintomas mais incapacitantes da Doença Arterial Periférica (DAP) por provocar uma deterioração progressiva da distância média de caminhada, levar a um estilo de vida sedentário, a um declínio funcional, e a uma crescente morbidade, mortalidade e redução da qualidade de vida. A gravidade da CI é geralmente descrita em termos de distância de claudicação. No entanto, nem sempre os doentes têm uma perceção real da sua capacidade para caminhar o que dificulta a adesão aos programas de exercício físico estruturado.

Material e métodos
66 doentes com DAP e CI (Fontaine II) em acompanhamento na Consulta Externa de Angiologia e Cirurgia Vascular do CHUP, foram incluídos neste estudo, e sujeitos a uma avaliação clínica, física e psicológica. Foi utilizado um questionário sociodemográfico e clínico, e foi realizada uma avaliação da distância caminhada através do Teste da Passadeira e do Teste 6-minutos. O Índice Tornozelo Braço (ITB) foi calculado antes e depois do Teste da Passadeira.

Resultados
Os doentes na sua maioria são do sexo masculino (85%), reformados (64%), com uma idade média de 65 anos (DP=7,21, variando entre 52 e 79 anos) e 7 anos de escolaridade (DP=3,92), apresentam HTA e dislipidemia (85%) e 33% apresenta obesidade (IMC>30). Os doentes apresentam DAP leve a moderada, um ITB pré exercício no Membro Inferior Direito de 0,72(0,19) e no Membro Inferior Esquerdo de 0,71(0,17), e uma queda de aproximadamente 0,07 no ITB após o exercício.
A perceção subjetiva da distância caminhada até surgir dor é de 289 metros (DP=282,8) em média, variando entre 5 e 1000 metros. Contudo, em média, os doentes começam a sentir dor após 109 metros (DP=106,1) percorridos no Teste da Passadeira e terminam o exercício em média após 315 metros percorridos (DP=183,14). De acordo com o Teste 6-minutos os doentes caminham em média 333,5 metros (DP=66,43) e fazem uma paragem devido à dor em média após 2 minutos (DP=00,59). A perceção subjetiva da distância caminhada até surgir dor é de 289 metros (DP=282,8) em média, variando entre 5 e 1000 metros.

Conclusões
Os resultados dos testes que avaliam a distância caminhada de forma objetiva demonstram claramente as dificuldades funcionais e de mobilidade destes doentes. Mas, mais importante, demonstram a sobrevalorização da incapacidade por parte dos doentes. A perceção subjetiva irrealista reflete-se na baixa adesão aos programas de exercício físico e à mudança de estilo de vida no geral. Estes testes devem ser realizados, e os resultados partilhados com os doentes de forma a alterar a perceção errónea que têm sobre a sua capacidade funcional e aumentar a consciência da necessidade de fazer atividade física regular, exercício físico estruturado e evitar o sedentarismo



P46 / PERFIL DA ATIVIDADE FÍSICA PRATICADA POR DOENTES COM DAP

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Introdução
A claudicação intermitente (CI) é um dos sintomas mais incapacitantes da Doença Arterial Periférica. A distância média de caminhada deteriora-se progressivamente, levando a um estilo de vida sedentário, diminuindo a aptidão física e aumentando o risco cardiovascular a longo prazo bem como aumentando as taxas de perda de mobilidade. Por isso, seja causa ou consequência, a verdade é que o padrão de atividade física destes doentes tem características particulares que interessa conhecer pelas implicações na sua evolução clínica e qualidade de vida geral.

Material e métodos
66 doentes com DAP e CI (Fontaine II) em acompanhamento na Consulta Externa de Angiologia e Cirurgia Vascular do CHUP, foram incluídos neste estudo. Foram utilizados, um questionário sociodemográfico e clínico; o Questionário Internacional de Atividade Física para Idoso (IPAQ_I); o Walking Impairment Questionnaire (WIQ), e o VascuQoL.

Resultados
Os doentes são na sua maioria do sexo masculino (85%), reformados (64%), com uma idade média de 65 anos (DP=7,21, variando entre 52 e 79 anos) e 7 anos de escolaridade (DP=3,92), apresentam HTA e dislipidemia (85%) e 33% obesidade (IMC>30).
82% da amostra é classificada como insuficientemente ativo, 11% moderadamente ativo e 8% vigorosamente ativo. Em média, estes doentes passam 7 horas (3,47) por dia sentados (a trabalhar, em casa e durante os tempos livres como a ver TV), variando entre 0 a 16 horas. Os doentes que reportam caminhar, fazem-no em média durante 44 minutos (0,21) em média 3 dias por semana (3,25). Reportam atividades moderadas (jardinagem ligeira, limpezas, andar de bicicleta, nadar ou atividades aeróbicas) em apenas 1 dia por semana durante cerca de 3 horas (2,18) e atividades vigorosas (levantar pesos, jardinagem pesada, trabalhos de construção, cortar madeira, atividades aeróbicas, correr) em menos de um dia por semana, cerca de 5 horas (2,02). Como expectável, há diferenças significativas na qualidade de vida e nas dificuldades em caminhar em função do nível de atividade física dos doentes, sendo que os doentes com um padrão moderadamente ativo que apresentam maior qualidade de vida quando comparados com os doentes insuficiente e vigorosamente ativos ($\chi2(2)= 10,63$, $p<.05$). Os doentes com um padrão moderado a vigorosamente ativo apresentam menos dificuldades ao nível da velocidade da caminhada ($\chi2(2)= 6,273$, $p<.05$) e na subida de escadas ($\chi2(2)= 7,855$, $p<.01$), mas não se encontraram diferenças significativas ao nível da distância caminhada ($\chi2(2)= 2,975$, n.s.).

Conclusões
Os resultados deste estudo acompanham a tendência da inatividade física da população portuguesa geral. O desafio reside em reunir esforços para aumentar o número de doentes com um perfil moderado a vigorosamente ativo de maneira a aumentar a distância de caminhada e a qualidade de vida nesta população.

P47 / SÍNDROME DO MARTELO HIPOTENAR: A PROPÓSITO DE UM CASO CLÍNICO

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3. Centro Hospitalar do Tâmega e Sousa

Introdução e Objetivos
A anatomia da artéria cubital na região hipotenar (canal de Guyon, onde a mesma é relativamente superficial) torna-a suscetível a lesões em situações de traumatismo repetido. O síndrome do martelo hipotenar é raro e muitas vezes sub-diagnosticado. Origina-se em traumatismos repetidos, com consequentes lesões da parede arterial com oclusão trombótica e/ou degeneração aneurismática. A fisiopatologia prende-se com o dano da íntima (que levam a agregação plaquetária e subsequente formação de trombo) mas também da média (com subsequente formação de aneurismas). A etiologia pode estar relacionada com anomalias vasculares prévias (displasia fibromuscular).
A apresentação clínica é sob a forma de fenómenos de Raynaud, dor e hipotermia essencialmente na mão dominante (nos 3º a 5º dedos). Pelo traumatismo repetido, os doentes apresentam muitas vezes calosidades na região que eleva a suspeição clínica. Pode ainda ser palpável uma massa pulsátil na eminência hipotenar.
O diagnóstico é habitualmente feito com base na apresentação clínica, auxiliado por ecodoppler. A angiografia é útil para o planeamento do tratamento cirúrgico, no caso de isquemia crítica da mão ou aneurisma permeável. Os autores apresentam um caso de Síndrome do martelo hipotenar com aneurisma associado.

Resultados – Caso Clínico
Homem, 44 anos, fumador, mecânico.
Quadro de dor na região hipotenar, palidez e hipotermia do 4º e 5º dedo da mão direita (dominante) com 2 semanas de evolução. À data de avaliação no serviço de urgência apresentava mão quente e bem perfundida, ginástica capilar conservada e sem défices sensitivo-motores. Apresentava pulso subclávio, axilar, umeral e radial amplos e simétricos. Ao ecodoppler observou-se trombose da artéria cubital (desde o terço distal do antebraço) e dilatação aneurismática trombosada da artéria cubital no canal de Guyon. A artéria radial estava permeável e com fluxo trifásico amplo.

Pela ausência de sinais de isquemia aguda e permeabilidade da arcada palmar, optou-se por tratamento conservador com hipocoagulação e vigilância clínica.

Conclusão

O síndrome do martelo hipotenar resultada do trauma repetido na artéria cubital, habitualmente relacionado com a atividade profissional. É uma causa rara de oclusão da artéria cubital e por isso é necessário um grau elevado de suspeição para o seu diagnóstico. No caso de arcada palmar completa, e sem isquemia crítica da mão, o tratamento conservador, com hipocoagulação e vigilância clínica tem bom prognóstico. No caso de aneurisma permeável ou isquemia crítica da mão a angiografia é essencial para melhor caracterização anatómica e cirurgia de revascularização.

Síndrome do martelo hipotenar: a propósito de um caso clínico

20 Anos SPACV

INTRODUÇÃO E OBJETIVOS

RESULTADOS – CASO CLÍNICO

CONCLUSÃO

P48 / ENDOVASCULAR EXCLUSION OF A VOLUMOUS SPLENIC ARTERY ANEURYSM. A CASE REPORT

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Introduction

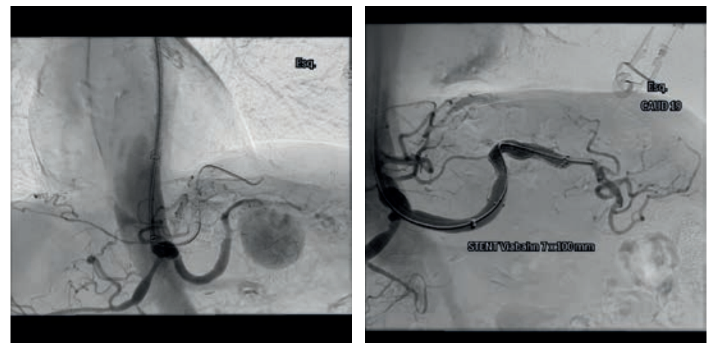
Splanchnic artery aneurysms are a rare finding when comparing with other peripheral aneurysms. Splenic artery aneurysms account for over 60% of these aneurysms, with a reported incidence under 1%. These may be found incidentally or in symptomatic patients with abdominal pain or rupture.

Case report

We report the case of a 79-year-old male, with a previous history of COPD and smoking habits. He complained of upper abdominal pain irradiating to the back in the previous 3 months. Pain was relieved in ventral decubitus. He also reported unvoluntary, no-specified weight loss and anorexia. During the physical examination, there was abdominal tenderness at the right hypocondrium, with no signs of peritonitis. A CT angiography was performed, showing a nodule located in the head of the pancreas and a concomitant 50 mm-diameter, saccular aneurysm at the middle third of the splenic artery, with no signs of rupture or instability. The patient was transferred to Centro Hospitalar Lisboa Norte for urgent exclusion of the aneurysm. The patient was admitted to the Angiosuite. An angiography was performed (FIGURE 1). A Viabahn® 7x100mm covered stent graft was used to exclude the aneurysm, with a good angiographic result (FIGURE 2). The post-operative period was uneventful, except for signs of splenic infarction in the post-operative CT scan following the coverage of a splenic ramus by the distal end of the stent graft. The patient was put on prophylactic antibiotic therapy and vaccination against capsulated micro-organisms during follow-up. After the 1-month follow-up appointment, he developed no signs of infection or other complications related to the procedure.

Discussion

Splenic artery aneurysms are the most common splanchnic artery aneurysms. Although they are more frequently reported as an incidental finding, splenic artery aneurysms may be associated with symptoms or rupture. While open surgical repair with artery ligation was previously the mainstay of treatment, endovascular options are becoming increasingly more common. Comparing with the more widespread use of endovascular coils to exclude the aneurysm, the use of covered stent grafts offers the advantage of preserving organ perfusion.



P49 / "CORAL REEF AORTA": CASE REPORT AND LITERATURE REVIEW

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Introduction
Coral reef aorta (CRA) is an uncommon entity in which focal eccentric rock-hard calcifications protrude into the aortic lumen. CRA can be associated with high morbidity and mortality when symptoms develop and can also limit intravascular accesses for the treatment of other cardiovascular pathologies.

Aim & Methods
Considering CRA rarity, we report three cases and perform a literature review on this disease.

Case-Report
Case 1: 65-year-old obese, diabetic and dyslipidemic female, admitted due to left CLTI (W2I3fI2). She presented without palpable femoral pulses. Along with left SFA occlusion, computed tomography angiography (CTA) demonstrated a coral-reef atheroma of the infrarenal aorta. The patient was submitted to primary implantation of a balloon-expandable covered stent (BECS) and concomitant SFA recanalization and angioplasty. Postoperatively, pedal pulses were palpable and she was submitted to D4 ray amputation with healing.
Case 2: 53-year-old active smoker, diabetic female admitted due to bilateral blue-toe syndrome. She presented diminished femoral pulses, with an ABI of 0.5 and 0.27 at right at left, respectively. CTA revealed eccentric aortic infrarenal calcification, with intra-plaque thrombus. BECS was implanted and anticoagulation and Iloprost initiated. Postoperatively ABI improved to 0.59 bilaterally, with rest pain and lesions resolution.
Case 3: 76-year-old female patient with dyslipidaemia, considered to transcatheter aortic valve implantation (TAVI). On pre-intervention planning CTA, an infrarenal aorta coral-reef lesion was detected which would prevent TAVI through femoral access. Clinically she presented a bilateral Rutherford 3, with diminished femoral pulses. She was submitted to BECS implantation with simultaneous TAVI without complications.

Literature Review
CRA is a rare disease (less than 1% or operable aortic pathology), being more common in women. The pathophysiology of these extensive calcified lesions remains to be elucidated. Typically, the paravisceral/pararenal aorta is affected, but coral reef atheroma of the thoracic and infrarenal aorta have also been reported. Manifestations depend on the disease location and extent and can include arterial insufficiency of the bowel, kidneys and lower extremities. Endovascular treatment can be a valid alternative to open surgery, associated with lower perioperative risk. Nevertheless, the excessive calcification can pose technical difficulties.

Conclusion
CRA remains a misunderstood clinical identity. Diagnosis can be delayed to the time when symptoms develop and, when they appear, they are frequently associated with life or limb-threatening scenarios. However, with the growing number of intravascular interventions, we might expect an increase in asymptomatic CRA diagnosis. Therefore we report three cases that illustrate different manifestations of CRA and their respective management and provide an actual literature review regarding CRA.

P50 / RUPTURED SPONTANEOUS DEEP FEMORAL ARTERY FALSE ANEURYSM: CASE REPORT AND LITERATURE REVIEW

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Introduction:
Deep femoral artery (DFA) false aneurysms are very rare and are usually related to venous or arterial catheterizations or previous surgical procedures. There are a few reports on this pathology in the literature. We present a case of a large ruptured spontaneous DFA aneurysm.

Methods:
A 82-year-old man with previous history of hypertension, minor stoke and bilateral hip prosthesis 20 years ago, was in urology nursery in our institution due to bladder neoplasm and abscess, with abdominal surgery and drainage. Cultures were positive for sensitive Klebsielle pneumoniae. No inguinal punction was performed.
The patient started complaining about inguinal swelling and pelvic CT-scan revealed a 4cm DFA aneurysm. Previous examinations had no mass. Vascular surgery was only contacted 10 days later when the patient had strong thigh pain with a tense nonpulsatile mass. High femoral and distal pulses were present. He was haemodynamically stable, with haemoglobin drop from 13.2 to 9.2g/dL, leukocytes 11.9$^{x10^{9}/L}$ and reactive C protein 22.4mg/dL.

Ultrasound revealed a DFA false aneurysm 15cm from common femoral artery bifurcation with 7.4cm with a 9cm haematoma. Contrast CT-scan confirmed DFA rupture and showed a 2.5cm right internal iliac artery and a 2cm left common iliac artery aneurysm with no aorta aneurysm. The patient was immediately to surgery. DFA was ligated due to massive destruction with no outflow artery. Material was send to analysis: compatible with septic thrombus, cultures were negative. Patient was empirically treated with meropenem and fluconazole and was discharged 20 days later from Urology nursery with no limb ischaemia.

Results:

Peripheral aneurysms account for 4.6% of all aneurysms and DFA aneurysms account for 0.1 to 4.6% of all peripheral aneurysms. They are usually correlated with the presence of aneurysms in other locations, with 50-85% having aortoiliac aneurysms. In most cases DFA aneurysms are subclinical or characterized by swelling and acute physical diagnosis might be difficult, especially in smaller aneurysms. Spontaneous DFA aneurysms are very rare and might be associated with atherosclerosis with arterial wall weakening. Although thrombin injection can be used in small aneurysms and endovascular coil embolization or grafting is possible in some cases, open surgery is still the treatment of choice in most cases. DFA patency should be preserved whenever possible.

Conclusion:

DFA are very rare and can be misdiagnosed, especially smaller aneurysms. Treatment should be individualised and DFA patency should be preserved when possible, especially in patients with superficial femoral artery occlusion

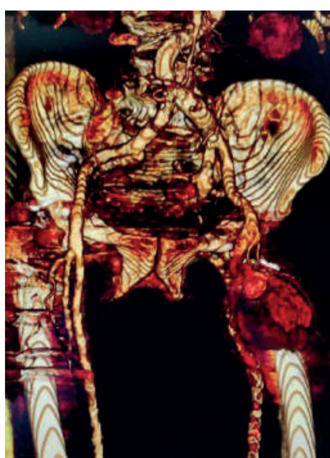

Figure 1. Abdominopelvic contrast CT scan with 3D reconstruction showing left deep femoral artery false aneurysm. Thrombus and thigh haematoma is not visible.

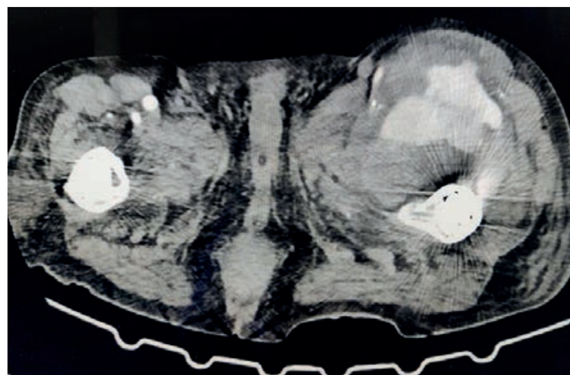

Figure 2. Contrast CT scan showing left deep femoral artery false aneurysm in rupture with huge thigh haematoma.

P51 / COMPLICAÇÕES A LONGO PRAZO DE ACESSOS VENOSOS CENTRAIS: A PROPÓSITO DE 2 CASOS CLÍNICOS

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Atualmente o uso de acessos venosos centrais é cada vez mais comum e o seu uso pode servir várias funcionalidades. Na idade pediátrica, este tipo de acesso pode ser necessário para quimioterapia, nutrição, transfusões sanguíneas ou até mesmo para a realização de hemodiálise.

No entanto, a colocação de cateteres no sistema venoso central, apesar dos seus enormes benefícios, não está desprovida de complicações. Dentro das complicações mais comuns a longo prazo podemos destacar infecções, migração de cateter e trombose.

Este trabalho apresenta dois casos clínicos de doentes em idade pediátrica que devido à colocação de cateteres no sistema venoso central desenvolveram estenoses ou esgotaram os acessos possíveis. No entanto, ambas as doentes foram intervencionadas por cirurgia vascular uma vez que existia a necessidade de manter os acessos patentes.

O caso clínico 1 corresponde a uma doente com beta-talassemia *major* que por infecção de cateter implantado para realização de transfusões recorrentes necessitou de o retirar mas antes foi necessário delinear um plano para obter alternativa uma vez que a doente apresentava esgotamento de acessos venosos.

O caso clínico 2 corresponde a uma doente submetida a nefrectomia bilateral, não candidata a transplante, sem possibilidade de criação de fístula arterio-venosa e que apresentava disfunção do cateter de hemodiálise.

Ambos os casos demonstram o valor do tratamento

endovascular em situações em que este tipo de abordagem apresenta uma solução de último recurso permitindo manter os cuidados médicos necessários.

P52 / EMBOLISM AT AORTIC BIFURCATION: CASE REPORT

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Introduction

Embolism of aortic bifurcation is a severe emergent condition that needs immediate treatment. The diagnosis is well recognized by absent pulse in lower extremities, sudden back and extremities pain associated with cold and numbness in extremities, followed by cyanosis.
This work reports a case of a 76 years-old woman that appeared in urgency department due to cold lower extremities, lack of strength in legs and dyspnea. After proper physical examination and imaging tests, the diagnosis of embolism at aortic bifurcation was made and the patient was treated emergently.

Case Report

A 76 years-old woman arrived at urgency department due to lack of strength and cold in both lower extremities and dyspnea that appeared suddenly in the early morning. At physical examination, the patient had cold lower extremities, absent femoral pulse in both legs, paresthesias and extended capillary fill time. Previous known medical conditions were: hearth failure, atrial fibrillation, grade 2 obesity, type 2 diabetes, high blood pressure, dyslipidemia and grade 4 end-stage kidney failure. The patient was not under any hypocoagulation or anti-aggregation treatment.
The doppler ultrasound was performed immediately and showed absent signal in both common femoral arteries. An emergent CT-Scan was performed and revealed thrombosis of distal abdominal aorta, starting 44mm below left renal artery ostium, with total aortic bifurcation and common iliac arteries occlusion with distal permeability. In less than one hour the patient was diagnosed and started surgery.
A bilateral transfemoral tromboembolectomy was performed and both popliteal pulses were palpable at the end of surgery. After surgery, the patient needed aminergic support and ICU care for five days due to reperfusion syndrome.
After 2 months of discharge, the patient was reevaluated at vascular surgery appointment and had satisfactory wounds healing and no symptoms related to surgery.

Conclusion

Embolism at aortic bifurcation is a rare condition but with high mortality rates due to concomitant medical conditions. This case showed that an early correct diagnosis and emergent treatment are extremely important to treat this condition.