

Which stents perform best in the common femoral artery? An analysis of a consecutive series of 55 cases

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Background

Common femoral artery (CFA) endarterectomy has good patency but is associated with significant infection related complications. Percutaneous treatment using stents is showing promising results. There is a lack of data on which stent are best for this location considered traditionally as a flexion point. The purpose of this study is to present a single centre UK experience with common femoral artery stenting.

Methods

Data was collected prospectively on consecutive patients undergoing CFA stenting between – February 2010 and December 2023. Data included patient demographics, co-morbidities, indications for intervention and procedural data. Primary patency was assessed based on imaging on follow-up or clinical examination. Survival analysis was conducted comparing self-expanding to balloon-expandable stents.

Results

Overall, CFA intervention was attempted in 65 patients, 70% of whom were men. Patients had a median age of 74 years old. 47 patients had stenosis, 12 had total chronic occlusion and 7 had an aneurysm. 6 patients have undergone angioplasty only and 55 patients had stenting, procedure was abandoned in 2 patients where lesion could not be crossed. 3 patients received bare-metal self-expanding stents, n=23 covered, self-expanding stents, n=19 covered, balloon-expandable stents, and n=10 had a balloon-expandable bare-metal stents. Self -expanding stents (n=29) (covered and bare) had a mean patency of 23 (4.68) months, vs balloon-expandable (n=26), 19 (3.47) months, $p = 0.666$.

Conclusion

Endovascular treatment of common femoral artery is a feasible option for revascularization. Stenting was performed with a high technical success rate. Balloon-expanding stents did not differ in patency rates from self- expanding stents.

Toward a core outcome set for intermittent claudication: A systematic review of reported outcomes

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Background

This review aimed to compile an exhaustive list of all outcome measures and identify different characteristics of the outcomes reported in studies of intermittent claudication as the first step in developing a core outcome set (COS) for intermittent claudication.

Method

Medline and Embase were searched for all studies including individuals with intermittent claudication and reporting ≥ 1 outcome from January 2015 to February 2023. Abstract, full text screening, and data extraction were performed by two investigators independently. All reported outcome measures were extracted verbatim and categorised by Dodd's taxonomy of outcomes classification. (COMET registration: COMIC Study, 1590).

Results

A total of 4,382 studies were screened, and 343 were included. A total of 2038 outcomes were extracted and 504 unique outcomes across 24 Dodd's domains were identified. Ankle-Brachial Pressure Index was the most frequently reported outcome followed by Primary Patency and Rutherford Classification. 360 unique outcomes were reported by only one study. Patient-reported Outcome Measures (PROMs) comprised only 10% of all reported outcomes and were not reported in almost 2/3 of all the studies. There were wide variations in the definition of commonly used outcome measures across different studies.

Conclusion

There is substantial heterogeneity in reported outcomes in studies of intermittent claudication limiting comparison of different studies and making pooling data extremely challenging. Most reported outcomes are clinical/physiology oriented than patient centred. Development of COS for Intermittent Claudication is vital to improve and standardise reporting in studies of intermittent claudication.

The natural history of Splenic Artery Aneurysms: A decade's experience at a large tertiary vascular centre

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Background

Splenic artery aneurysms (SAAs) are the commonest visceral artery aneurysm. Their natural history is poorly defined and evidence for surveillance and management is weak. We present one of the largest retrospective series of patients with SAA.

Methods

Radiology records at a single large tertiary vascular centre were searched for all patients reported to have SAA between 2012 and 2021 inclusive. These were combined with electronic patient and radiology records, with demographic, clinical and follow-up data extracted.

Results

170 patients with SAA were identified, 73% female with a mean age of 71 years (SD 14.1) at index scan. Mean SAA size on index scan was 15.2mm (range 7 -105), 56% were calcified, 5% thrombosed and 1% pseudoaneurysmal. Twenty patients (mean index size 16.5mm) underwent surveillance locally. Surveillance patients underwent a mean of 1.75 surveillance scans, with a mean interval of 22 months between CTs. One surveillance patient underwent intervention. The average growth of SAAs was 0.33mm/year across a mean follow-up of 38 months. Five SAAs underwent intervention, 1 under surveillance, 4 de-novo: 2 for rupture. Four were treated with coil embolization (1 requiring repeat intervention with N-butyl cyanoacrylate) and 1 by splenectomy. Only 2 ruptures occurred, a 9mm pseudoaneurysm and a 19mm SAA, neither under surveillance, both were treated successfully. There were no SAA related deaths.

Conclusion

SAAs are predominantly diagnosed in elderly female patients. They grow slowly, taking on average 30 years to grow 10mm. This should be taken into consideration when deciding the frequency and duration of surveillance.

Rate and predictors of disease progression to chronic limb-threatening ischaemia in patients with non-surgically managed intermittent claudication: a systematic review

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Background

Intermittent claudication (IC) is a common pathology, affecting 4.5% of the UK population, and is associated with significant health burden if disease progresses to chronic limb-threatening ischaemia (CLTI), characterised by the development of rest pain, tissue loss or gangrene lasting >2 weeks. The natural history of non-surgically managed IC remains poorly described, and this study aimed to examine the rate and predictors of progression from IC to CLTI.

Methods

Systematic review (PROSPERO ID:CRD42023401259) in accordance with PRISMA guidelines of available literature using Scopus, World of Science, Medline, Embase, and CINAHL databases. Adult patients with IC managed non-surgically were included. Progression rate was defined as percentage of IC patients developing CLTI within a pre-specified timeframe. Predictors identified from uni/multivariate analyses were included.

Results

Search terms yielded 6,404 unique reports. Nine studies (7 retrospective and 2 prospective cohort) of 4,115 patients were included in primary synthesis, three in secondary synthesis. All were non-randomised cohort designs. ROBINS-I risk of bias was assessed as “moderate” in 5 of 9 studies, and “serious” in the remaining 4. Reported rates of progression to CLTI varied widely, between 1.1%-30% over 2-10 years of follow-up. Predictors were advanced age, diabetes, haemodialysis, smoking, serum low-density lipoprotein, HbA1c, and baseline severity of ischaemia.

Conclusion

There remains a paucity of high-quality studies focusing on understanding the progression of non-surgically managed IC. Recent evidence suggests that progression rates may be higher than previously thought. The predictors included provide a rationale for future study and may represent targets for healthcare provision.

A retrospective study of the rate of complications in infra-inguinal angioplasties: SFA vs CFA percutaneous approach

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Background

Peripheral vascular disease (PVD) affects a significant proportion of the population. This study investigates the safety and efficacy of infra-inguinal angioplasty via antegrade puncture of the common femoral artery (CFA) compared to the superficial femoral artery (SFA) in a District Hospital.

Methods

Retrospective data analysis was conducted on patients undergoing antegrade infra-inguinal angioplasties between 05/01/2016 and 21/12/2016. Of the 173 patients, 124 (79%) underwent CFA puncture, and 32 (21%) underwent SFA puncture. The UVZPF system verified the puncture site, and complications were identified through outpatient letters, Electronic Discharge Documents (EDDs), and follow-up scans.

Results

Major access-related complications necessitating hospitalization or additional invasive procedures were absent in both groups. While the SFA approach exhibited slightly higher rates of minor complications, including failed attempts and hematoma/fluid collection, compared to CFA puncture (9.4% vs. 7.3%, and 3.1% vs. 1.6%, respectively), it also demonstrated a lower risk of bleeding (0% vs. 2.4%). No cases of pseudoaneurysm formation were reported in either group.

Conclusion

Study showed no major access related complications in patients undergoing infra-inguinal angioplasty for PVD, via puncture of either the SFA or the CFA. Recommendations include considering a lower threshold for SFA puncture in hostile groins. This study contributes valuable insights into the safety of SFA puncture as an alternative access route for infra-inguinal angioplasties, emphasizing the need for further research and consideration of patient-specific factors in decision-making by interventionists.