

Reproductive factors and the risk of incident peripheral arterial disease hospitalisation or death: A cohort study of UK Biobank participants

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Background

This study examined reproductive factors and exogenous hormone use in relation to the risk of incident peripheral arterial disease (PAD) in women.

Method

UK Biobank cohort study. Cox proportional hazard regressions used to estimate adjusted hazard ratios (adjHRs) for reproductive factors with incident PAD, adjusted for age, socioeconomic status, ethnicity, smoking status, systolic blood pressure, BMI, diabetes mellitus, cholesterol, antihypertensives, and lipid-lowering drugs.

Results

Incident PAD recorded among 2,942/272,557 women and 5,432/227,403 men over 13.2 years. Compared to menarche at 13 years, multiple-adjusted HRs for age <12 and age >14 years demonstrated increased PAD risk (adj HR 1.43 95% CI[1.32, 1.55], $p<.001$, 1.36 [1.23, 1.49], $p<.001$, respectively). An inverse relationship with age at first birth was observed, with cumulative risk reduction per additional year (adjHR 0.95 [0.94, 0.96], $p<.001$). Cumulative increase in PAD risk was observed per miscarriage (adjHR 1.06 [1.01, 1.11] $p=.027$), per stillbirth (adjHR 1.18 [1.03, 1.36] $p=.014$) and per abortion (adjHR 1.09 [1.01, 1.18], $p=.028$). Longer reproductive life-span and older age at menopause had inverse associations with PAD, while hysterectomy or oophorectomy was associated with increased risk (adjHR 1.24 [1.13, 1.35], $p<.001$, 1.24 [1.10, 1.39], $p<.001$, respectively). Oral contraceptives were associated with reduced PAD risk (adjHR 0.85 [0.78, 0.93], $p<.001$). Associations between parity and PAD were U-shaped. Multiple-adjusted HR for those with ≥ 4 children was 1.13 ([1.00, 1.25], $p=.041$) women; 1.25 ([1.16, 1.34], $p<.001$ men).

Conclusion

Reproductive factors are associated with increased risk of PAD and should be considered in future risk stratification.

Operative exposure for senior vascular trainees in peripheral vascular disease and abdominal aortic aneurysm over the last 10 years

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Background

Over time, with the expansion in endovascular technologies, better medical therapy and reduced working hours, the vascular surgery (VS) training landscape has changed. This study explores how UK VS training has changed in the last 10 years.

Method

Cross-sectional analysis of eLogbook data from ST8 VS trainees in 2013-14 (group 1), 2017-18 (group 2) and 2023-24 (group 3). Trainee involvement within PAD and AAA were reviewed.

Results

Over time, a decline in total cases logged is seen. Between group 1 and 2, there was a 13.3% reduction; and a further 16.9% reduction between group 2 and 3. With 263 cases on average logged in group 1; and 153 in group 3. Relating to PAD, 33, 34 and 25 cases on average were performed in groups 1, 2 and 3 respectively; with a trend towards a greater proportion of endovascular cases over time; 7, 16 and 13 cases on average in groups 1, 2 and 3 respectively. The total number of AAA repairs has decreased over time (615, 531 and 291). Trainees were involved in 18, 15 and 7 cases on average in groups 1, 2 and 3 respectively. Involvement in Open AAA repair was poor; with 8, 4 and <1 cases performed on average in groups 1, 2 and 3 respectively.

Conclusion

VS trainees are exposed to fewer operative opportunities compared to 10 years ago. Further work is required to understand surgical exposure at different training grades, aiming to identify and address deficits within modern day VS training.

Spatiotemporal Trends in Peripheral Artery Disease Prevalence in England – Primary Care Registry Data Analysis

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Background

Understanding peripheral arterial disease (PAD) trends, and geographical hotspots can allow insight into disparities in care and demand between regions. The majority of GP practices in England maintain a peripheral arterial disease (PAD) patient registry, as part of Quality and Outcomes Framework (QOF). We used these practice level data to characterise spatiotemporal patterns of PAD prevalence, and to examine association with social-deprivation, age, sex and co-morbidities over time.

Method

PAD prevalence and co-variate QOF data were combined with ONS deprivation and demographic data from 2013 to 2024, and summarised across Lower Layer Super Output Areas. Correlation matrices between prevalence and co-variables were constructed using pairwise Pearson's correlation coefficient, adjusting for practice size. Prevalence hotspots were determined using Geits-Ord analysis.

Results

Despite an increase in absolute numbers of patients recorded as having PAD (312,257 in 2013 to 353,814 in 2024), overall prevalence decreased from 0.65% to 0.58%. Age ($r=0.477$) social-deprivation ($r=0.451$), smoking status ($r=0.304$), hypertension ($r=0.596$), diabetes ($r=0.275$), and coronary heart disease ($r=0.801$) were positively correlated with PAD prevalence at practice level. Significant increases in PAD were identified in Yorkshire and Humber (z-score 3.11, $p=0.002$) North-West England (z-score 2.55, $p=0.01$), and North-East England (z-score 2.22, $p=0.02$).

Conclusion

PAD prevalence as recorded on primary care records is decreasing nationally, despite increasing population age. Further validation of this data against secondary care outcomes is needed to assess best medical therapy adherence and outcomes, and increase collaboration between primary and secondary care.

Stent configuration for endovascular ilio caval reconstruction - a systematic review

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Background

Endovascular Iliocaval reconstruction is a potential option for managing chronic venous occlusive disease. A variety of stent configurations are described in the literature. This systematic review explores the evidence behind these options and whether there is a difference in patency rates based on the configuration used.

Method

A systematic review (Cochrane, Medline, PubMed, Embase) was performed for studies reporting outcomes for endovascular ilio caval reconstruction. The configurations of interest included: Inverted Y, double barrelled stenting, the 3 stent technique, and the skip stent technique. Weighted means are reported for primary and secondary patency rates for the different configurations.

Results

18549 studies were identified (11092 after manual and automatic deduplication). 11077 ineligible studies were excluded. Of the 15 included studies, there were no randomised control trials available for meta-analysis. The limited patency data is as follows (primary, secondary): Inverted Y (3 studies) – 42.9%, 90.1%; double barrel (4 studies) – 64.2%, 93.2%; skip stenting (1 study) – 74.0%, 97.0%; three stent (9 studies) – 77.0%, 87.6%. There was large variation in follow-up time (3 months – 36 months). No studies reported QoL data for comparison and there was heterogeneity in reported data. Minimal studies reported symptomatic outcomes.

Conclusion

There is limited evidence for a single technique being superior but configurations with 3-stents may offer greater primary patency. Clinicians should utilise their preferred method with appropriate governance and follow-up. Quality of life data is lacking as is consensus of definitions in reported data.

Femoropopliteal angioplasty for long lesions: Procedural success, patency, and reintervention in a high-risk cohort

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Background

Femoropopliteal (fempop) angioplasty has become a key intervention for patients with peripheral arterial disease, yet the impact of lesion length, device selection, and comorbidities on outcomes remains under scrutiny. This study aimed to assess clinical success rates, reintervention frequency, and patency among a cohort of patients undergoing fempop angioplasty with various balloon and stent technologies.

Method

We retrospectively reviewed 122 consecutive patients treated for fempop lesions. Demographic data, comorbidities, lesion characteristics, intervention type (plain balloon, drug-coated balloon, bare-metal stent, or drug-eluting stent), and patency outcomes were collected. Primary endpoints included technical success and primary patency; secondary endpoints encompassed reinterventions, complications, and limb salvage.

Results

Among the 122 patients (mean age 69.6 years; 82 male), all presented with long fempop lesions (mean length 21.49 cm). Primary interventions were performed in 79.51% of cases, while 20.49% underwent secondary procedures. Technical success exceeded 80% overall, with an average patency period of 15.4 months. Drug-eluting stents and drug-coated balloons were frequently employed, especially in patients with extensive disease. Comorbidities such as diabetes, hypertension, and ischemic heart disease were prevalent, reflecting a high-risk population.

Conclusion

Fempop angioplasty using contemporary devices demonstrates encouraging procedural success and mid-term patency, even for long lesions in a comorbid population. Nonetheless, reinterventions remain necessary in a substantial minority of cases. These findings support the growing role of endovascular approaches in managing femoropopliteal disease, while underscoring the need for vigilant follow-up and timely secondary interventions.

The relevance, specificity, and usability of the current Patient-reported Outcome Measure for Chronic Limb Threatening Ischaemia: A systematic review of reported PROMs

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Background

Chronic limb-threatening ischemia (CLTI) causes significant morbidity with profound negative effects on health-related quality of life (QoL). The use of Patient-reported Outcome Measures (PROMs) are increasing in clinical practice and research. The aim of this study was to identify all reported PROMs in research of CLTI and assess the usefulness of these measures in CLTI patients.

Method

This is a sub-study of a systematic review for development of Core Outcome Set in CLTI (PROSPERO: CRD42023412204). Studies recruiting CLTI patients and reported at least one PROM were included from the original search of Medline, Embase, CINAHL, and Cochrane Central from inception until March 2024. All PROMs, either validated or not, single outcome measure or QoL tools, were included.

Results

A total of 19,760 titles screened, 4,516 articles screened, and 475 studies included. Across the studies, 61 unique PROMs were identified. There were 13 health-related quality of life and 11 disease-specific tools. EQ-5D was the most frequently reported generic QoL and Vascul-QoL was the most used disease-specific QoL tool. Non-validated PROMs were used in 141(30%) of the studies. There was marked heterogeneity of the reported PROMs. No any specific PROM addresses all the aspects of the experience of patients with CLTI.

Conclusion

PROMs used to describe the experience of patients with CLTI are heterogeneous and lack specific applicability. Despite the multiplicity of tools, no single PROM encompasses all the components necessary to describe the experiences of patients with CLTI. Development of disease specific, concise PROMs for CLTI is essential.