

Sex Disparities in the Treatment of Peripheral Arterial Disease with Infra-Inguinal Arterial Bypass

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INTRODUCTION AND OBJECTIVES

Studies acknowledge sex based differences in peripheral arterial disease(PAD) comorbidities and disease pattern, however contemporary outcomes in surgically managed disease remains largely under-characterized. We aim to discern differences between males and females in PAD disease severity, bypass characteristics, and perioperative outcomes.

METHODS

The VQI registry was queried for IIAB (2010-2020). Patients without sex designation were excluded, as were those treated for non-occlusive disease or acute limb ischemia. Demographics, comorbidities, medical management, and perioperative and long-term outcomes were compared using chi-square analysis, t-test and Kaplan Meier analysis.

RESULTS

The cohort consisted of 58,718 patients, 67.2% male and 32.8% female. Female patients had a higher proportion of black race(20.1% vs 14.7%, $p<.001$), diabetes(53.2% vs 50.3%, $p<.001$) and low socioeconomic status(20.5% vs 17.9%, $p<.001$), while male patients had higher rates of ambulation(95.0% vs 93.2%, $p<.001$) and coronary disease(66.4% vs 28.7%, $p<.001$).

Females underwent more prior peripheral intervention compared to males (52.8% vs 48.3%, $p<.001$). On presentation, rest pain was more prevalent in females(26.0% vs 22.0%, $p<.001$) versus claudication in males(24.5% vs 20.6%, $p<.001$). Graft origin at the iliofemoral region was seen more often in females versus the femoropopliteal region in males. Additionally, graft recipient site was more often popliteal artery in females versus tibial vessels in males ($p<0.001$). Vein conduits were more prevalent in males compared to females(61.8% vs 54.6%, $p<.001$). 30-day mortality rates were higher in females(2.4% vs 1.8%, $p<0.001$). Males were more likely to be medically optimized on aspirin and statin both prior to intervention and on discharge ($p<0.001$). Males had a primary patency rate at discharge(94.5% vs 93.1%, $p<.001$) and at 1 year follow up(67.2% vs 64.8%, $p<.001$).

CONCLUSIONS:

Females present with a unique demographic, socioeconomic and comorbidity pattern resulting in diminished perioperative medical management and more proximal PAD disease distribution. Disparities in IIAB outcomes also exist with decreased primary patency and higher mortality rates.