EVAR and Gender Differences in the Female Population with Aortic Anerysms

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Introduction: The complex arterial anatomy found in women is a source of a higher exclusion rate for EVAR, higher complication rate, and potential gender bias compared to males with abdominal aortic aneurysms(AAA).

Method: A retrospective literature review from 1994 to present pertaining to women with AAA. EVAR and gender differences between women and men were examined. In addition, a review of 250 female patients with aortic aneurysms and factors that influence outcomes was reviewed.

Results: Women had narrower common and external iliac arteries with mean diameters of 13.4 mm and 9.6 mm respectively. Women showed a trend toward higher mean iliac angles. Reversed deployment of the main body, with intentional limb crossing, was more frequent in women (37.9% vs 21.7%). Mean diameter of the proximal neck was smaller in women ($p<.001$), and the aneurysm/aortic neck ratio was significantly larger in women ($p<.05$). Length of the proximal aortic neck was significantly shorter ($p<.05$). Post EVAR, there was a trend toward proximal neck dilatation (15% vs 12%)($p=.059$) relative to pre-operative diameters. There was a greater incidence of supra-renal aneurysmal involvement and the proportion of women with thoraco-abdominal and descending thoracic aneurysm was twice the ratio of female AAA's compared to males. Adjunctive maneouvers to gain access to the aorto-iliac lumen such as iliac access angioplasty, uni-iliac conversion and common iliac conduits were frequent. Women had significantly more intra-operative complications related to access difficulties. Endo-leak was 1.7 times more likely. Neck diameter, neck tortuosity,

neck length(<10mm) and iliac access vessels were the commonest reason for EVAR exclusion.

Conclusion: Women have higher mortality rates, more difficult aortic anatomy and social factors that influence their outcomes.