Objective
Endovascular treatment for elective and emergent abdominal aortic aneurysm repair has grown in popularity due to its minimally invasive option and better suitability for non-open surgical candidates. Some of the feared complications include type Ia endoleak and graft migration. This study attempts to evaluate a single institution’s use of Aptus EndoAnchor in prevention and resolution of type Ia endoleaks, graft migration, and post-operative complications.

Methods
This is a retrospective chart review of sixteen cases after EVAR and use of EndoAnchors on short necks at a single-institution between October 2016-July 2017. Post-operative outcomes and in-hospital mortality were evaluated. Patients were followed at 1, 6 and 12 months with imaging studies.

Results
Of the 16 patients evaluated, 44% were males and 56% females. 94% of the cases involved infrarenal/juxtarenal AAA and 6% thoracoabdominal aneurysm, of which 50% were symptomatic. Elective repair was seen in 56%, urgent repair defined as same patient admission repair was present in 31%, and emergent repair was 13%. The average AAA diameter was 6cm (range 5.1-7.7cm), neck diameter was 27.4mm (19.3-37mm), neck length 10.5mm (1.3-26mm), neck angulation 20 degrees (8-35), 69% of aortic necks had <50% thrombus or calcification. EndoAnchors were used for proximal neck seal 63% and to resolve type Ia endoleak 38% of the time. Type II endoleak was observed in 13% of the cases. In-hospital mortality was 6%. Post-operative AKI was 20%, MI 13%, 0% stroke, 13% respiratory failure, paralysis, ALI, wound complication, PE and UTI were seen in 1 patient each. On post-operative follow-up at 1, 6 and 12 months, 93%, 91% and 100% of patients did not have type Ia endoleak respectively. Stent migration was not observed.

A subset analysis was performed demonstrating 11 patients with neck length <10mm, with average neck length of 6.5mm (1.3-10mm). The in-hospital mortality was 9%.

Post-operative 1, 6 and 12 months follow-up illustrated type Ia endoleak rate of 10%, 11% and 0% respectively.

Conclusion
The implantation of EndoAnchor is useful for prevention and resolution of type Ia endoleaks and endograft migrations. Post-operative major adverse events were also low in patients undergoing EVAR with short necks. There is a high technical success rate with excellent post-operative outcomes and can be a useful adjunct in urgent or emergent cases, in treating AAA.

Author
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