Single-center Experience Using Endologix AFX Device For Treatment Of Aortoiliac Occlusive Disease

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Objectives

- Covered endovascular reconstruction of the aortic bifurcation (CERAB) technique was developed in recent years as a novel surgical intervention for aortoiliac occlusive disease (AIOD)
- One tool commonly utilized in CERAB procedures is the anatomically-fixated endograft (AFX), manufactured by Endologix (Irvine, CA, USA) **(Figure 1)**
- We examined and assessed the outcomes of patients with AIOD in a single large institution after receiving treatment using the Endologix AFX device

Methods

- Retrospective cohort study of the 24 patients who underwent CERAB procedure at a single large institution from September 2018 to June 2024
- Chart reviews of patients were performed by trained investigators
- Statistical analysis was performed using Excel (Version 16.88, Microsoft, Redmond, WA, USA)
- Primary outcomes assessed: 30-day mortality and postoperative complications
- Secondary outcomes assessed: changes in ABI and need for reintervention

Figure 1. Images obtained of the aortic bifurcation before (A) and after (B) the procedure for one patient

Results

- 24 patients were identified as having undergone CERAB during the study period (n = 24); 14 were female (58%)
- 21 patients (87.5%) presented preoperatively with multilevel disease, defined as the presence of arterial occlusive disease
- Mean age at time of surgery was 71.29 (±7.56)
- 83.33% experienced an improved ABI in the right leg and 75% showed improvement in the left leg
- Average ABI change for evaluated patients was 0.20 (±0.27) on the right and 0.16 on the left (±0.22)
- Rate of 30-day post-operative complications was 41.67%
- Ten patients experienced at least one complication (42%) within 30 days of surgery
- Most common complications included respiratory failure (16.67%), acute renal insufficiency (8.33%), hematoma (8.33%), and infection (8.33%)

Figure 1. Post-operative outcomes

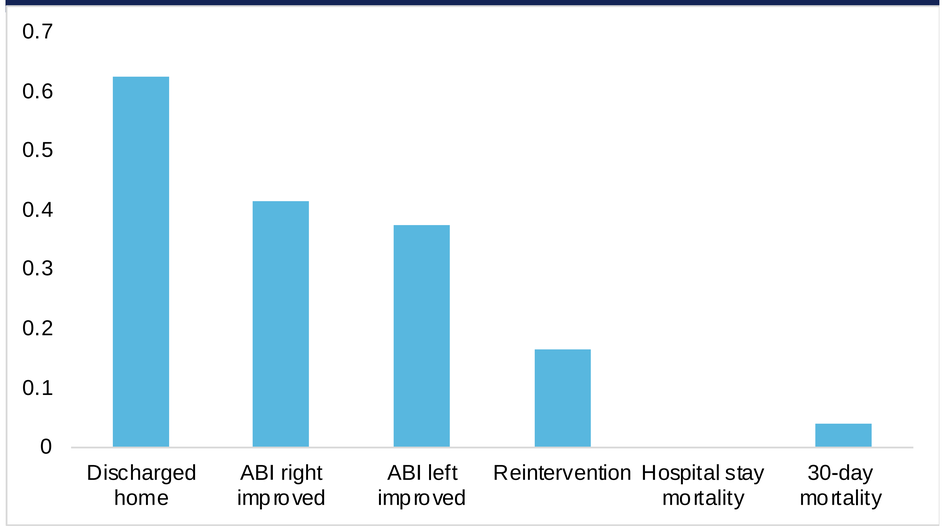

Table 1. 30-day post-operative complications

Post-Operative Complications	# of patients	% of total (n = 24)
Arterial Embolism	2	8.33
MI	1	4.17
Respiratory Failure	4	16.67
Pneumonia	1	4.17
Bowel Ischemia	1	4.17
Acute Renal Insufficiency	2	8.33
Bleeding	1	4.17
Hematoma	2	8.33
Limb Ischemia	1	4.17
Infection	2	8.33
Other	4	16.67

Conclusions

Overall, the CERAB procedure using the AFX device from Endologix demonstrated a high technical success rate and low rate of postoperative complications and mortality. In evaluating the results, it must be considered that the study cohort had a high rate of comorbidities and multi-level disease. Despite these limitations, the short-term results suggest that the use of AFX in CERAB is an effective and relatively safe treatment option for patients with AIOD.