Early Experience with Patient-Specific Unibody Bifurcated Fenestrated-Branched Devices for Complex Endovascular Aortic Aneurysm Repair

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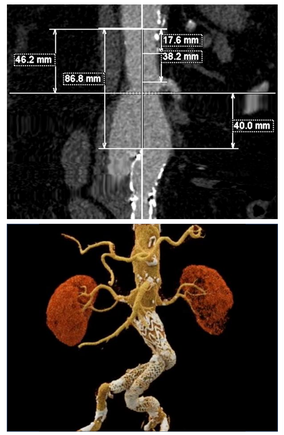
Background

- Short distances between the lowest renal artery & aortic bifurcation make complex EVAR challenging
- Risk of type III endoleak
- Difficult cannulation of contralateral gate
- Potential crushing of target vessel bridging stents



Methods

- Two-center, retrospective study using prospective database
- 33 patients underwent complex EVAR with unibody bifurcated FB-devices over 34-months
- Endpoints
  - Technical success
  - Survival
  - Type I or III endoleaks
  - Secondary Interventions

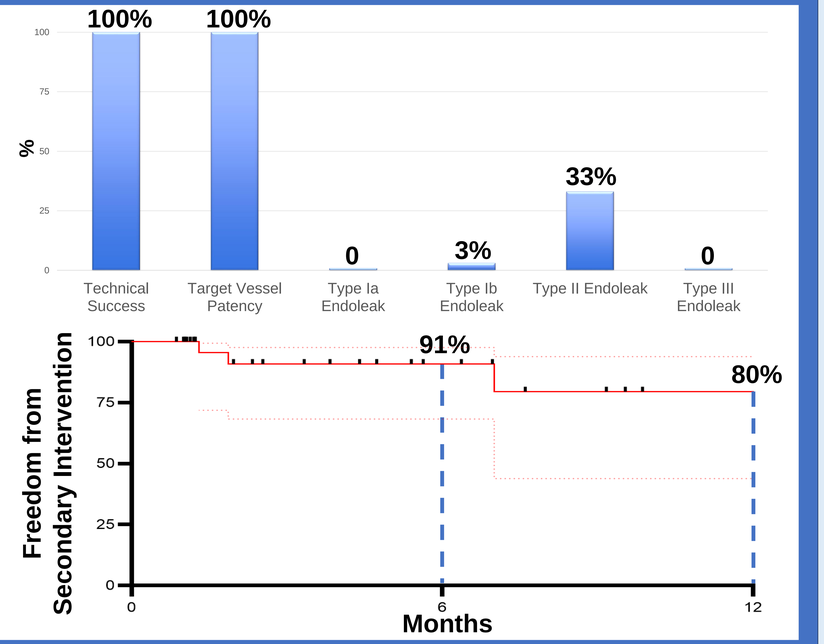
Patient Demographics

Variable	Unibody Bifurcated FB-Devices (n=33)
Age, years	77.2 ± 7.9
Gender, male	29 (79%)
Aneurysm maximum diameter, mm	61 (55-69)
Thoracoabdominal aneurysm type I-IV	18 (55%)
Prior EVAR	29 (88%)
Distance between lowest renal artery & aortic bifurcation, mm	47 (38-54)
Bifurcated FB-device	31 (94%)
Fenestrated inverted limb device	2 (6%)
Preloaded device	23 (70%)

Operative Parameters

Variable	Unibody Bifurcated FB-Devices (n=33)
Operative time, min	238 (193-299)
Fluoroscopy time, min	65.5 (56.0-77.7)
Reference air kerma (mGy)	1226.3 (802.2-1590.9)
Dose area product (Gy*cm^2)	18 (55%)
Contrast used, mL	115 (100-150)
Exclusive femoral access	14 (42%)

Early Outcomes



Conclusions

- Patient-specific unibody bifurcated FB-devices are simple & safe
- These devices may decrease the risk of type III endoleaks & procedure costs
- Ongoing research needed to evaluate durability, long-term outcomes, and expanded use