Outcomes of Fenestrated/Branched EVARs with Mixed Manufacturers in a Multi-Institution Review

Rohini J. Patel MD, MPH (1); Alexander D. DiBartolomeo MD (2); Agustin Sibona MD (1); Alyssa Pyun, MD (2); Mahmoud B. Malas MD, MHS (1); Gregory A. Magee, MD, MSc (2); Sukgu M Han MD, MS (2); Andrew R. Barleben MD, MPH (1)
(1) Division of Vascular and Endovascular Surgery, University of California San Diego
(2) Division of Vascular and Endovascular Surgery, University of Southern California

Background

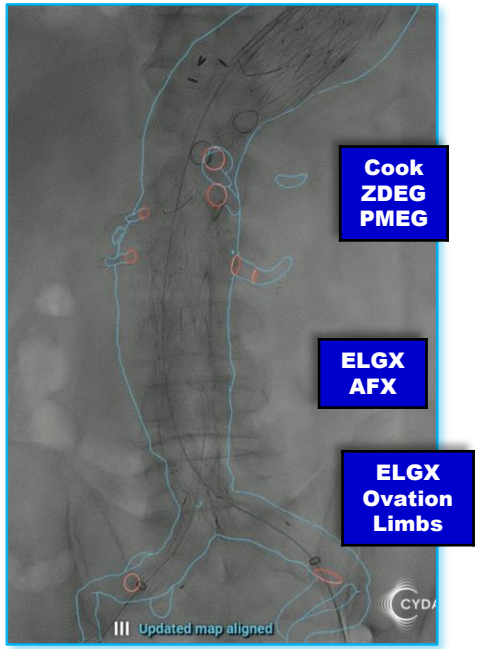
- Fenestrated/branched endovascular aneurysm repairs (F/BEVAR) are used in more complex aneurysms including following failed EVAR
- Used more commonly in difficult anatomy and previous repairs leading to repairs from multiple manufacturers due to anatomic constraints or distinct device features
- **OBJECTIVE** Compare outcomes between single manufacturer versus mixed manufacturer F/BEVAR

Methods

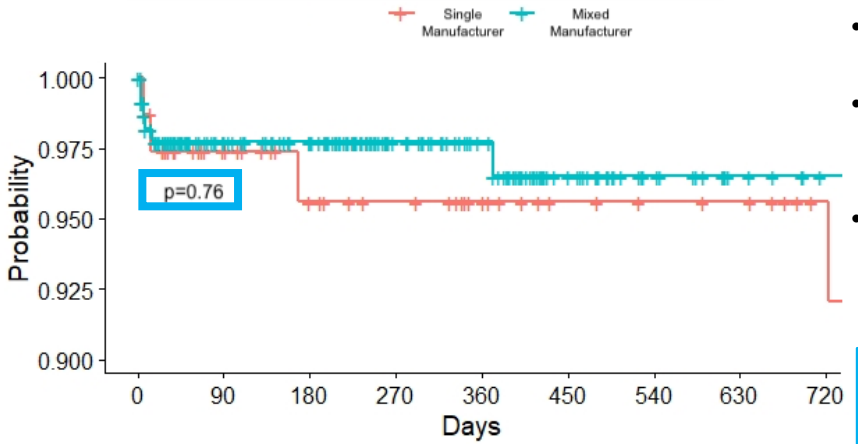
- Multi-institution
- Retrospective review
- 2015-2022
- Investigational Device Exemption protocols
- Patients were split by homogenous or heterogenous manufacturer
  - Bifurcated or proximal piece
- Primary outcomes
  - Type 3a endoleak
  - Reintervention
- Secondary outcomes
  - Intraoperative measures
  - Postoperative complications

Results

- 319 patients
- 237 (74.3%) mixed manufacturer (MM)
- 82 (25.7%) single manufacturer (SM)
- No difference in demographics, aneurysm size or aneurysm type
- 31.2% MM had prior EVAR vs 15.9% SM (p=0.007)
- No difference in type 3a EL MM: 3.6% versus SM 7.8%, p=0.123
- 100% type 3a EL reintervention in the MM and 66.7% in the SM group
- No difference in 30 day complications



Freedom From Type 3 EL's



Intraoperative Variables

	Coefficient*	95% CI	P Value	Adjusted R-Squared
Op Time (min)	-48.7	-77.1,-20.3	0.001	0.069
Contrast (cc)	-46.0	-62.6,-29.3	<0.0001	0.088
Fluoro Time (min)	-20.5	-30.2,-10.8	<0.0001	0.087
Blood Loss (cc)	-178.4	-290.4,-66.4	0.002	0.013

Adjusted for: age, sex, BMI, smoking status, CKD, history of EVAR, size/type of aneurysm
*Reduction in covariate with the use of mixed manufacturer stents

Conclusion

- Does not increase risk of type 3a endoleak
- No difference in 30-day, complications or mortality
- Take advantage of graft characteristics from different manufactures
- Can decrease operative time, fluoroscopy time and contrast use