Disease-Specific Patient-Reported Quality of Life After Fenestrated/ Branched Endovascular Aortic Aneurysm Repair

Tanvi Nayak¹, Aravind Ponukumati², Neel A. Manuszkhani¹, David Stone², David Kuwayama², Brian Nolan³, Bjoern Suckow², Andrew Hoel¹

¹Division of Vascular Surgery, Northwestern University Feinberg School of Medicine, ²Section of Vascular Surgery, Dartmouth-Hitchcock Medical Center, ³Division of Vascular and Endovascular Therapy, Department of Surgery, Maine Medical Center

Background

• Significant advances in technology and technique have facilitated minimally invasive repair of complex aortic aneurysms using fenestrated and branched endovascular devices (F/B-EVAR).
• We surveyed patient-reported quality of life (QOL) following F/B-EVAR using a previously validated disease-specific instrument.

Methods

• Living patients that underwent F/B-EVAR for pararenal or thoracoabdominal aortic aneurysms (n=285) were asked to complete a QOL survey that was previously validated in patients that underwent repair of an infrarenal abdominal aortic aneurysm.
• Surveys were evaluated in two primary QOL domains: emotional impact and activity change.
• Emotional impact was calculated from the survey into a score (EIS) with range 0-100; higher scores indicated more emotional impact and worse QOL.
• Activity change was assessed in four patient-identified areas (strenuous activity, travel, heavy lifting, and sexual activity) of greatest QOL impact after aneurysm repair.

Results

• Surveys were completed by 234 patients (82%), with mean follow-up length of 3.4 (±2.8) years.
• Mean EIS was 16 (±16) and slightly higher in the first post-operative year (20 vs 14); comparable to EIS previously seen after open (OAR) and endovascular (EVAR) infrarenal AAA repair. (Figure 1)
• A broad 4th quartile of EIS scores (22-91) suggests a small portion of respondents with markedly worse QOL after F/B-EVAR.
• A majority of patients did not experience change in activity after F/B-EVAR. However, 40% of patients did report decrease in strenuous activity and heavy lifting after aneurysm repair. (Figure 2)

Limitations

• One-fifth of patients could not be contacted due to an outdated address or phone number, which may contribute to non-response bias.
• Additionally, roughly 25% of participants were women and only 10% were non-White, which does not represent all patient populations.

Conclusions

• Patients undergoing F/B-EVAR demonstrate similar emotional QOL compared to EVAR and OAR, including improvement within the first post-operative year.
• Patients most commonly report unchanged or decreased activity after F/B-EVAR.
• With confirmed feasibility of this disease-specific QOL instrument, its use in prospective evaluation of patients with complex aortic disease may provide greater insights into the impact of F/B-EVAR on QOL.