



Invited Commentary

Commentary on 'AAA with a Challenging Neck: Early Outcomes Using the Endurant Stent-graft System'

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Latest generation devices for endovascular aortic repair (EVAR) are raising an increasing interest due to the possibility to extend effective treatment to aneurysm anatomies judged unfeasible by endovascular route in the past. The Endurant Medtronic stent graft has been introduced as an improved device to manage abdominal aortic aneurysms (AAAs) with difficult necks. In this issue of EJVES, Setacci et al. showed that the Endurant can also work well on really adverse neck anatomies using compelled off-label indications such as short neck length <15 mm associated with >60° neck angle, significant thrombus or conical neck. Despite the adverse anatomy, the authors did not find higher perioperative complication rates or increase in operative time and radiation exposure in the 72 repairs performed for challenging aneurysm neck morphology with respect to Endurant devices deployed in a control group of 65 patients treated with a more conservative morphology approach following device-specific instruction for use. Technical success was achieved in 100% of the 72 repairs with off-label indications and there was no operative death or perioperative type I or III endoleak.

Even though supported by small numbers and non-consecutive series of patients, these data certainly add valuable information to other recent, multi- or single-centre published results on the safety and feasibility of Endurant. Nevertheless, the short time of outcome assessment (results from Setacci et al. were provided at only 1 month after repair) raises the concern as to whether the compelled indications may provide durable efficacy in aneurysm exclusion by EVAR with Endurant. The main problem with endovascular approach to AAA remains the efficacy over time since EVAR is demonstrated as a less durable procedure than open surgery often requiring multiple re-interventions to maintain effective aneurysm sac exclusion. Increasing data are supporting higher aneurysm rupture and enlargement risks after EVAR with liberal aneurysm morphology indications, outside specific instruction for use established by the manufacturer.¹ Without mid-long-term

information supporting the efficacy of treatment in Setacci et al. experience, forcing new generation devices in extremely adverse aneurysm morphology might increase the risk of late failure even with the new device.

Compelled morphology indications for EVAR with new generation devices are particularly useful in high-surgical risk patients who cannot afford the risk of open surgery, when the life expectancy remains long enough to deserve AAA treatment. However, the definition of high-surgical risk patients to be forced to EVAR treatment remains indeterminate and non-standardised. Setacci et al. used a number of demographic and co-morbidity factors: >80 y age, ejection fraction <25%, hostile abdomen, serum creatinine >2.0 mg dl⁻¹, forced expiratory volume <1 l s⁻¹. However, about 20% of their patients were classified with an ASA score of II or less (81% ASA III/IV) and probably only a local factor represented a relative contraindication for open repair. There is the need to uniform definition of risk criteria for patients with AAA to avoid forcing to EVAR adverse aneurysm anatomy with high likelihood of late failure also with most advanced devices.

Endurant device is a paradigm as new generation aortic devices allowed notable improvements (in terms of expanded feasibility and decreased complication rates with related higher durability) for treatment of AAA. Nevertheless, as of today, optimistic enthusiasm to reliably and definitely manage very challenging aortic neck morphology by EVAR is still supported by limited evidence and needs to be reinforced by more robust and longer assessment data.

Reference

- 1 Schanzer A, Greenberg RK, Hevelone N, Robinson WP, Eslami MH, Goldberg RJ, et al. Predictors of abdominal aortic aneurysm sac enlargement after endovascular repair. *Circulation* 2011 Jun 21;123(24):2848–55 [Epub 2011 Apr 10].

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