

Biologically Active Stent Graft for Aortic Aneurysms: Rationale and Preclinical Data

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Stent grafting results in good immediate results for treatment of abdominal aortic aneurysm (AAA), with 30-day morbidity and mortality rates less than those of open surgery. On midterm follow-up studies, the complication rate, however, is significant. Some published series report that more than 10% of stent grafts have to be surgically removed within the first 4 years after stent implantation.^{1,2} A US Food and Drug Administration analysis suggests that mortality after endovascular aneurysm repair (EVAR) is 0.4% per year compared with 0.18% yearly after open surgical repair.³ Most middle and late complications are related to secondary leaks, some catastrophic, others not.^{4,5} These can be secondary to a size increase of the proximal aneurysmal neck or to changes in aneurysmal volume after successful exclusion, resulting in device distortion, kinking, or modular disconnection.