The evolution of stent-grafts and endovascular delivery systems has substantially improved the application rate for and patient outcomes with endovascular aneurysm repair (EVAR) of abdominal aortic aneurysm (AAA), but further development is needed in order to reduce the continuing incidence of complications and secondary re-interventions. Severe angulations at the proximal aneurysm neck and tortuous, calcified, and small iliac arteries are still recognized as important risk factors for successful EVAR of AAA and hence as criteria for exclusion of many potential patients. The Endurant stent-graft is part of a next-generation system that was designed with the clear intention of expanding the applicability of EVAR for AAA while also continuing to improve treatment outcomes and reduce complications. Innovative features of the system design include anchoring pins for ensuring proximal fixation, wire-formed M-shape body stents for improved flexibility and conformability, and a low-profile delivery system with hydrophilic coating that improves trackability and pushability to facilitate the vascular access even in small challenging arteries. Initial clinical experience with the Endurant stent-graft system, including preliminary results from the first-in-human European trial of the device, has demonstrated that the device can be delivered and deployed.
safely, even in highly angulated anatomies. Technical success was achieved in 90.3% of the patients in the trial. No device-related serious adverse events were seen during the first follow-up period, and no device-related deaths were reported. This new stent-graft will potentially enlarge the patient population suitable for EVAR of AAA.