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Strut Failure in the Body of the Zenith Abdominal Endoprosthesis

Dear Sirs,

We read with interest the article by Rumball-Smith et al on strut failure of the second-generation of the abdominal Zenith stent-graft.(1) It presents important data given the concern that stent fractures raises on the long-term durability of EVAR. We and others have previously reported this type of stent fracture(2, 3). We identified this in 5 out of 37 patients receiving the bifurcated bimodular custom-made Zenith stent-graft version (Cook Europe A/S, Bjaeverskov, Danmark). All fractures were identified in the stent immediately above the flow divider and were first seen at 6 months up to 3 years post-operatively. As in Dr. Rumball-Smith's series, all aneurysms remained excluded and no reinterventions were performed. The absence of clinical consequences following these stent fractures may be explained by the attachment of the stainless steel stents to the outside of the graft by multiple sutures, which, theoretically, reduces the risk of perforation of the graft material. In the latest Tri-fab version of the stent-graft the stent from the previous version above the flow divider (21 mm) was replaced by two shorter ones (14 mm). This led to an increased flexibility of the stent-graft at that level and, thereby, supposedly decreased the stress thought to be responsible for the fractures. This design change appears to have had a positive effect since we have only been seen one patient with stent-fractures out of more than 400 patients receiving the latest Tri-fab stent-graft in our department. However, in that patient the fractures occurred in the 2

stents above the flow divider. Taking the issue of material fatigue in stent-grafts into account the need for continuous imaging follow-up after EVAR is emphasized.

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