Endovascular treatment of visceral aortic patch aneurysms with custom-made fenestrated and branched endografts following open thoraco-abdominal aortic aneurysm surgery

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Purpose:
to report a series of four cases of visceral aortic patch (VAP) aneurysms managed by endovascular exclusion with custom-made branched and fenestrated devices.

Report:
in between 2013 and 2016 four patients (3 males, mean age 70y) were referred to our center with a diagnosis of VAP aneurysm following open thoraco-abdominal aortic surgery. Initial pathology at first open surgical treatment was a Type I TAAA in two cases, a Type II in one case, and a Type III in the last case. Mean follow-up at VAP identification was 7 years. All cases were treated with custom made fenestrated or branched aortic stent-grafts (Cook Medical, Bloomington, Ind). Total number of bridged vessels was 12, with graft design requiring two branches and ten fenestrations. Technical success was achieved in all cases.

Conclusions:
Revascularization of visceral vessels during open TAAA repair can be achieved with the Crawford inclusion technique. The issue with this procedure is that the retained portion of diseased aorta can be prone to further dilatation, giving rise to a visceral aortic patch (VAP) aneurysm. Our group proved that an off-label use of custom made devices can be a valid option to manage endovascularly a pathology which would be burdened by severe mortality and morbidity if approached with redo open surgery.