

Debranching Procedure for Thoracoabdominal Aortic Aneurysm Utilizing the GORE PROPATEN® Vascular Graft and Heparin Induced Thrombocytopenia: A Case Report

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CLINICAL CHALLENGE

The patient was an 83-year-old male with a symptomatic 7.6 cm Type III TAA. Co-morbidities included history of coronary artery disease with a history of CABG, atrial fibrillation, hypertension, hyperlipidemia, diabetes, COPD-emphysema, AAA repair with a GORE EXCLUDER® Endoprosthesis and a right pelvic kidney transplant. The patient wanted the aneurysm repaired and the option of a traditional TAA was considered to be high risk due to his multiple co-morbidities and COPD. The alternative of a debranching procedure with subsequent thoracic endograft placement was discussed with the patient and agreed upon.

Preoperative mesenteric and renal angiography was performed to determine the integrity of these vessels for bypass.

PROCEDURE

A preoperative lumbar drain was placed by the anesthesiology team. A retroperitoneal approach was chosen and the incision was made along the left flank and carried onto the tenth rib. The diaphragm was not interrogated. The celiac trunk, SMA, splenic artery and the left external iliac artery were exposed. A 6 mm ringed GORE PROPATEN® Vascular Graft was used to bypass from the left external iliac artery to the splenic artery in an end-to-side anastomosis. A second 6 mm ringed GORE PROPATEN® Vascular Graft was used to bypass from the previous graft to the SMA in a C-loop end-to-end anastomosis. The celiac trunk was ligated. A single 34 mm x 20 cm GORE TAG® Thoracic Endoprosthesis was then placed via the left groin approach covering the descending thoracic aorta up to the previously placed GORE EXCLUDER® AAA Endoprosthesis within the abdominal aorta.

POST-OP COURSE

The patient's hospitalization was complicated by a urinary tract infection and pneumonia. The patient did not experience any paraplegia post-procedure. Heparin drip was started three days after the procedure for his history of atrial fibrillation. The platelet count did decrease from 144 to 68 three weeks after the procedure. This lasted for only 24 hours and the count recovered progressively over a period of three days. Heparin was held for three days. HIT antibodies were positive but the serotonin assay was negative. Heparin was restarted and the patient was eventually converted to COUMADIN® Tablet Therapy. The patient did not experience any further decrease in platelet counts during six months of follow-up.

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PHYSICIAN COMMENTS

The GORE PROPATEN® Vascular Graft is an excellent option for use in visceral artery bypass procedures. The presence of multiple co-morbidities in the patient precluded him from having a standard surgical repair. Type III TAA likely would have required cardiopulmonary bypass which would have been an issue with its own set of complications as well as the risk of injuring the kidney transplant. Although the patient has had previous exposure to heparin and had antibodies to the drug, the GORE PROPATEN® Vascular Graft did not elicit clinical HIT. The 400 IU of heparin on the GORE PROPATEN® Vascular Graft is likely too small a dose to elicit clinically significant HIT.



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