

A Novel Shunt for Bleeding Rectosigmoid Varices: Sigmoid Vein to Caval Bypass

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INTRODUCTION

Extrahepatic portal vein obstruction (EHPVO) is a condition where the portal vein, carrying blood from the digestive system to the liver, is blocked outside the liver. This leads to portal hypertension and various complications, including variceal bleeding. The incidence of rectal varices in EHPVO has been reported in up to 63 – 94% of cases but symptomatic bleeding occurs in only 0.5 – 5% of patients.¹ Surgical management of EHPVO shunts portal blood into the systemic circulation. Rectal varices refractory to endoscopic and interventional radiology techniques can be managed by creating an adequate shunt between the inferior mesenteric vein (IMV) territory and systemic circulation. The IMV has been anastomosed to the inferior vena cava (IVC), left renal vein, left iliac vein, and ovarian vein by various surgeons in the past.^{2–4} This report describes a novel shunt procedure performed for refractory rectal varices in an EHPVO case where the IMV was not suitable for shunting.

TECHNIQUE

The patient was 16 year old boy with a history of EHPVO post splenectomy. He presented with lower gastrointestinal bleeding for one month. Contrast enhanced tomography, magnetic resonance imaging, and colonoscopy were evident of multiple tortuous vascular channels within the thickened rectal wall along with EHPVO (Fig. 1). Hypercoagulation workup was negative. The extensive varices were not amenable to endoscopic or angiographic procedures, so shunt surgery was planned. He was optimised pre-operatively with two packed red blood cell transfusions.

Intra-operatively, the varices were present in areas drained by the IMV while the rest of the bowel was normal. The IMV was thrombosed, cord like, and unsuitable for the shunt (Fig. 2). A large vein draining the sigmoid was identified and clamped with a micro bulldog clamp after

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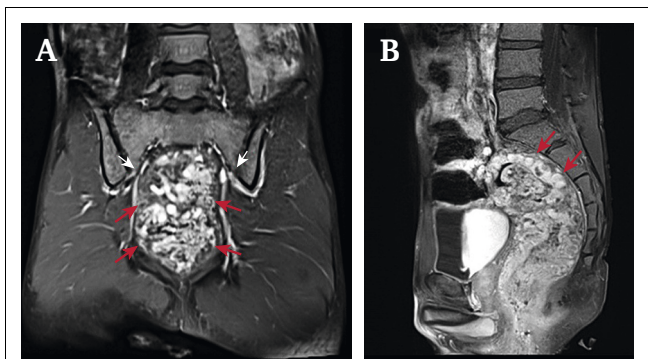


Figure 1. Radiology images of the patient. (A). Communication between rectum and internal iliac vessels forming a cavernoma over rectum (white arrows); rectal cavernoma formation of entire rectal wall (red arrows). (B). Thickened cavernomatous transformation of rectal wall (red arrows)

heparinisation. A shunt between the sigmoid vein and the IVC was created with a 6 mm polytetrafluoroethylene graft. Intra-operative doppler imaging showed good flow through the graft. Post-operatively, the patient was started on intravenous heparin and later rivaroxaban for anti-coagulation. The bleeding episodes decreased over a week and stopped completely after two weeks. He was doing well six months post-operatively with no fresh bleeding episodes.

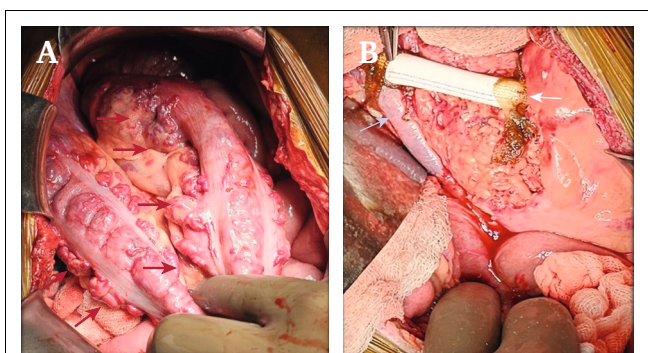


Figure 2. Intra-operative images. (A). Cavernoma formation over the entire left colon extending to the rectum (red arrows). (B). The polytetrafluoroethylene graft bypass between the sigmoid colic vein (white arrow) and inferior vena cava (white arrow).

Conclusion

Refractory rectal varices can be successfully managed with the shunting of portal blood into systemic circulation. If the IMV is not available, another suitable draining vein can be successfully used to shunt blood as established in this case.

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