

Not Your Typical Steal Syndrome — Traumatic Superior Mesenteric Arteriovenous Fistula Causing Acute Bowel Ischaemia

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In this issue of the *European Journal of Vascular and Endovascular Surgery Short Reports*, Dr. Miller and colleagues¹ report on a rare case of superior mesenteric arteriovenous fistula (SMAVF) formation after penetrating trauma to the abdomen. In their case report, the authors describe the case of a gunshot wound resulting in bowel ischaemia not due to the typical causes of hypotension or extensive haemorrhage. The patient was initially treated at a local hospital for his injuries, but then subsequently transferred to a specialty care centre after a palpable thrill was felt at the root of his small bowel mesentery. It was then recognised that the patient had acute, position dependent bowel ischaemia, resulting in a mesenteric steal phenomenon. To their knowledge, this is the first description of traumatic SMAVF causing acute bowel ischaemia, as previous case reports describe delayed recognition years after the initial injury.²

Previous descriptions of this rare phenomenon include treatment by exploratory laparotomy and ligation of the traumatic arteriovenous fistula,³ which would have been a difficult procedure to undertake, with the authors recognizing that it would be have been high risk. The authors describe the technique of using covered stents to treat the SMAVF, with complete resolution of both the radiological and clinical findings. The fact that the patient recovered without gastrointestinal symptoms is testament to all surgical teams involved in the care of this patient.

Furthermore, this case report highlights the importance tertiary care specialty centres play in the recognition and treatment of complex and rare disease processes. The patient was initially treated at a local hospital, where advanced endovascular capabilities were not available. The collaboration of surgical specialties, including trauma surgery with damage control and second look laparotomy, combined with endovascular expertise, achieved a favourable result for a potentially devastating and difficult to

recognise injury. Not only should the authors be commended for recognizing this rare injury, but their innovation and resourcefulness with their treatment plan is a testament to the therapeutic potential of hybrid open and endovascular techniques. The initial operating team which recognised that the patient had a mesenteric thrill and initiated further imaging work up should also be recognised for their decision to promptly transfer the patient to a higher level of care.

The only caveat is that patients treated by endovascular therapy should be followed long term, as the authors correctly state that endovascular stent placement carries an increased risk of thrombosis. This is particularly challenging in the trauma patient population; however, patients enrolled in local access to care programs are more likely to comply with follow up.⁴ It is imperative that trauma centres provide long-term access for those patients treated by endovascular therapy, as these patients need long-term surveillance.

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