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## Endovascular and open repair of traumatic great vessel injuries: A case series

**Kelly Ruecker***Royal Melbourne Hospital, Australia***Background:**

Blunt thoracic aortic injury carries a high mortality risk, with only 10% of patients surviving to hospitalisation. We present three cases of aortic arch and branch injuries treated with endovascular, open and hybrid vascular repair.

**Case Descriptions:****Case 1:**

A 33yo male presented post MVC. CT imaging demonstrated a complex Type B dissection of the aortic isthmus with several short intimal flaps arising distal to the left SCA origin. Emergency TEVAR was performed.

**Case 2:**

A 19yo female presented post MVC. CT showed pseudoaneurysm at the origin of the BCT. Attempts at excluding the pseudoaneurysm with an endovascular stent were unsuccessful and proceeded to a median sternotomy and BCT interposition graft repair under cardiopulmonary bypass.

**Case 3:**

A 24yo male presented post motorcycle crash versus truck with CT imaging demonstrating a left SCA avulsion. Proximal control was temporised using TEVAR and control obtained via ligation of the SCA via a supraclavicular incision with subsequent left common

carotid to SCA bypass.

**Discussion:**

Blunt thoracic great vessel trauma is rare, accounting for less than 5% of traumatic vascular injuries. Endovascular stents have been increasingly described in the literature as a safe alternative to open repair for thoracic aortic and subclavian injuries. Advantages include a minimally invasive procedure, short procedure time and avoidance of cardiopulmonary bypass, however the mainstay of treatment for thoracic aortic and aortic branch injuries has been open repair.

**Conclusion:**

Initial attempt at endovascular repair should be utilised in traumatic aortic and branch injuries however success rates are variable and should prompt conversion to open repair if unsuccessful.

**Recent Publications**

Ruecker K, Wilkie B, Marascia D, Furlong T, Tang J, Wang W. Pylephlebitis of the inferior mesenteric vein: a rare complication of sigmoid diverticulitis. ANZ Journal of Surgery. 2021

**Biography**

Kelly Ruecker is a pre-SET General Surgery and Trauma registrar at [Royal Melbourne Hospital](#), Australia. She has a keen interest in trauma surgery, surgical oncology and medical education.

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