World Academy of Science, Engineering and Technology
International Journal of Health and Medical Engineering
Vol:15, No:02, 2021

Traumatic Brachiocephalic Artery Pseudoaneurysm

Authors : Sally Shepherd, Jessica Wong, David Read

Abstract : Traumatic brachiocephalic artery aneurysm is a rare injury that typically occurs as a result of a blunt chest injury. A 19-year-old female sustained a head-on, high speed motor vehicle crash into a tree. Upon release after 45 minutes of entrapment, she was tachycardic but normotensive, with a significant seatbelt sign across her chest and open deformed right thigh with weak pulses in bilateral lower limbs. A chest XR showed mild upper mediastinal widening. A CT trauma series plus gated CT chest revealed a grade 3a aortic arch transection with brachiocephalic pseudoaneurysm. Endovascular repair of the brachiocephalic artery was attempted post-presentation but was unsuccessful as the first stent migrated to the infrarenal abdominal aorta and the second stent across the brachiocephalic artery origin had a persistent leak at the base. She was transferred to Intensive Care for strict blood pressure control. She returned to theatre 5 hours later for a median sternotomy, aortic arch repair with an 8mm graft extraction, and excision of the innominate artery pseudoaneurysm. She had an uncomplicated post-operative recovery. This case highlights that brachiocephalic artery injury is a rare but potentially lethal injury as a result of blunt chest trauma. Safe management requires a combined Vascular and Cardiothoracic team approach, as stenting alone may be insufficient.

Keywords : blunt chest injury, Brachiocephalic aneurysm, innominate artery, trauma
Conference Title : ICTCS 2021 : International Conference on Thoracic and Cardiac Surgery
Conference Location : Barcelona, Spain
Conference Dates : February 11-12, 2021