**Intraoperative Aortic Rupture during TEVAR for Traumatic Aortic Injury – Why Cardiothoracic Surgeons' Involvement is a Must**

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**Background**. Thoracic endovascular aortic repair (TEVAR) has become the standard of care for blunt traumatic aortic injury (TBAI), particularly in the descending thoracic aorta. However, Zone 3 repairs near the visceral segment present high procedural risks due to the challenging anatomy and limited area for landing zones. In this report, we present a case of Zone 3 TEVAR complicated by intraoperative aortic rupture, requiring immediate sternotomy and cardiopulmonary bypass (CPB), underscoring the indispensable role of cardiothoracic surgeons in trauma TEVAR.

**Case Presentation**. A 32-year-old male presented after a high-impact motor vehicle collision with a Grade III TBAI involving zone 3 of the thoracic aorta. TEVAR was performed using a Medtronic Valiant thoracic endograft. During the procedure, a sudden hemodynamic collapse occurred. Live imaging revealed contrast extravasation consistent with aortic rupture. An emergency median sternotomy was performed, with CPB initiated via femoral artery and right atrial venous cannulation within 10 minutes. Aortic bleeding control was achieved, and surgical interposition graft was successfully implanted. The patient was weaned off bypass, stabilized, and eventually discharged home without major complications.

**Discussion**. While TEVAR cases in Malaysia are often led by vascular teams, trauma-related TEVAR, especially in zones 2 and 3, should be led by cardiothoracic surgeons due to the real risk of rupture and the need for immediate conversion to open repair with CPB. As illustrated by this case, patient's survival hinged on the ability to execute a timely sternotomy and establish bypass. The full surgical and perfusion capacity offered by a cardiothoracic team is irreplaceable especially in high-stake trauma cases.

**Conclusion**. Trauma-related TEVAR cases are not just an endovascular procedure—it is a hybrid cardiovascular emergency. Cardiothoracic surgeons should be present for all trauma TEVARs, especially in high-risk cases, to ensure immediate rescue capabilities. Institutional protocols should reflect this necessity to optimise patient safety and outcomes.