

**Endoluminal Stent Graft for Acute Blunt Traumatic Thoracic Aortic Injury**

*Shinfeld, A; Rimon, U; Garniek, A; Golan, G; Simon, D; Paz, Y; Raanani, E  
Sheba Medical Center, Tel Hasomer, Israel*

**BACKGROUND:** Traumatic injury of the thoracic aorta is a life-threatening complication in patients who sustain deceleration or crush injuries. Open surgical mortality is increased in the presence of coexisting head, lung, and abdominal injuries. Spinal cord ischemia may occur following aortic cross-clamping and operative hypotension. Endoluminal stent-graft placement offers a safe, effective, and timely treatment option. The aim of this study was to assess our single center experience of endovascular repair following acute blunt traumatic aortic injury.

**METHODS:** Data from 16 consecutive patients (mean age, 38.7 years; range, 18 to 84 years) with acute blunt traumatic aortic injury treated by endovascular stent-graft insertion between January 2002 and October 2009 was prospectively collected. Demographics, injury characteristics, technique, and complications were recorded. Follow-up data consisted of computed tomographic angiography and plain chest radiography at regular intervals. Mean and median follow-up after stent-graft implantation were 37.9 and 36 months, respectively.

**RESULTS:** All patients underwent endovascular repair within a median of 9 hours from hospital presentation. Stent-graft implantation was technically successful in all patients. No patient required conversion to open surgical repair of the acute blunt traumatic aortic injury. Procedure-related paraplegia was zero. We recorded a common femoral lesion during the procedure as a unique immediate complication. The median hospital stay was 21 days. The only perioperative death was unrelated to the aortic rupture or stent placement.

**CONCLUSION:** Endovascular repair is evolving as the procedure of choice for acute blunt traumatic aortic injury. Treatment of lesions that extend into the aortic arch is feasible with extra-anatomical bypass. In our study, endovascular repair of blunt traumatic aortic injury is a safe procedure with low morbidity and a mortality rate.