

Natural history of minimal aortic injury following blunt thoracic aortic trauma

Background: Endovascular repair of blunt traumatic thoracic aortic injuries (BTAI) is common at most trauma centres, with excellent results. However, little is known regarding which injuries do not require intervention. We reviewed the natural history of untreated patients with minimal aortic injury (MAI) at our centre.

Methods: We conducted a retrospective database review to identify all patients with a BTAI between October 2008 and March 2010. The cohort comprised patients initially untreated because of the lesser degree of injury of an MAI. We reviewed initial and follow-up computed tomography (CT) scans and clinical information.

Results: We identified 69 patients with a BTAI during the study period; 10 were initially untreated and were included in this study. Degree of injury included intimal flaps (n = 7, 70%), pseudoaneurysms with minimal hematoma (n = 2, 20%) and circumferential intimal tear (n = 1, 10%). Six (60%) patients were male, and the median age was 40 years. Duration of clinical follow-up ranged from 1 month to 6 years (median 2 mo) after discharge, whereas CT radiologic follow-up ranged from 1 week to 6 years (median 6 wk). Seven (70%) patients had complete resolution or stabilization of their MAI, 1 (10%) with circumferential intimal tear showed extension of the injury at 8 weeks postinjury and underwent successful repair, and 2 (20%) were lost to follow-up.

Conclusion: There appears to be a subset of patients with BTAI who require no surgical intervention. This includes those with limited intimal flaps, which often resolve. Radiologic surveillance is mandatory to ensure MAI resolution and identify any progression that might prompt repair.