

Treatment of Blunt Aortic Isthmus Rupture: 19-Years Single Center Experience

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Objectives: Diagnosis and management of blunt aortic isthmus rupture have improved the past 20 years. Compared with surgical repair, endovascular repair is associated with lower postoperative mortality and ischemic spinal cord injury rates.

Our aims were to review all the aortic isthmus rupture admitted in our university hospital and to evaluate results of the treatments.

Methods: We reviewed retrospectively all patients admitted in our institution between 2002 and 2021 for aortic isthmus rupture due to blunt injury.

The lesions were categorized in four grades, related to the importance of the rupture on computed tomography. Treatments included in this study were conservative attitude, open surgery and thoracic endovascular aortic repair (TEVAR).

Results: 62 patients (14 females, 48 males) were hospitalized with an aortic isthmus lesion due to blunt injury. Mean age was 46,9 years. Major cause was moto or car crash. The distribution of the aortic ruptures in grade 1 to 4 was respectively 19, 23, 8 and 12. The majority of patients also had other injuries. 5 patients died before management of the aortic lesion. 21 ruptures were treated conservatively without complication related to the aortic lesion. 20 patients had an open surgery, 9 had TEVAR and 7 had an hybrid procedure combining carotid-subclavian bypass and TEVAR. One patient died and 2 patients had spinal cord injury after surgical treatment. Endovascular treatment was not associated with mortality and spinal cord injury.

Conclusions: In our experience, endovascular repair of aortic isthmus rupture is safe. It can be performed with delay. Long-term results of endovascular approach are not known.

No conflict of interest has been declared by the author(s).

Publication History

Article published online:
10 June 2022

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333 Seventh Avenue, 18th Floor, New York, NY 10001, USA