

Transaortic gunshot injury as an incidental finding ten days after attempted suicide

E. Grabner, S. Weiss, T. R. Wyss, J. Schmidli, R. Bühlmann

Department of Cardiovascular Surgery, Inselspital, Bern University Hospital, University of Bern, Switzerland

Objective

Penetrating aortic injuries are rare in Europe but associated with high mortality, usually due to massive bleeding. We describe an uncommon case of a transaortic gunshot injury discovered ten days after attempted suicide involving a firearm.

Case Report

This 29-year-old patient was admitted with three gunshot wounds of the thorax and abdomen after a suicide attempt. He was conscious and hemodynamically stable. Bilateral chest drains were necessary because of hemo-pneumothoraces.

Computed tomography (CT) revealed injuries of the diaphragm, the peri-/myocardium, a laceration of the liver, intraabdominal air and retroperitoneal hematoma. There was no evidence of a lesion of the great vessels and no active bleeding (Figure 1).

The patient underwent immediate laparotomy with suture of the diaphragm and small bowel lesions, hemostasis of the liver and the transverse mesocolon. The superficial lesion of the epicardium was also repaired via the abdominal approach.

The patient had an unremarkable recovery. However, a CT scan ten days later showed two new false aneurysms of the aorta: one adjacent right to the origin of the superior mesenteric artery and one opposite at the left posterior side of the aorta next to the projectile (Figure 2).

Re-laparotomy with bilateral visceral rotation was performed with supraceliac control of the aorta and the two lesions of the aorta were repaired using pledget-armed sutures (Figure 3).

The patient recovered quickly and was discharged after seven days. Follow-up CT at three months showed a good postoperative result.

Conclusion

Our case illustrates that this kind of trauma may be survived untreated for several days. The severity of the injury depends on the firearm, bullet, velocity, entry point, and trajectory before hitting the aorta. The small caliber and low velocity gun used in this case and the young age of the patient with good aortic wall elasticity probably led to spontaneous sealing of the vessel lesions, resulting in a false aneurysm but not in extensive bleeding. In patients with gunshot injuries with a projectile in close proximity to the aorta, aortic injury should be considered even if primary imaging shows no signs of active bleeding or vessel wall alteration.

Figure 1: Initial CT angiography (intact aortic wall and no bleeding)

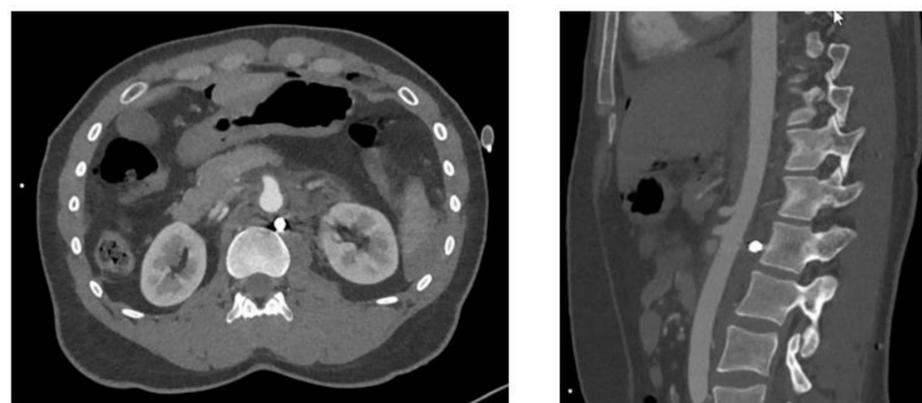


Figure 2: Postoperative CT angiography after 10 days (false aneurysms of the aorta at the level of the superior mesenteric artery)

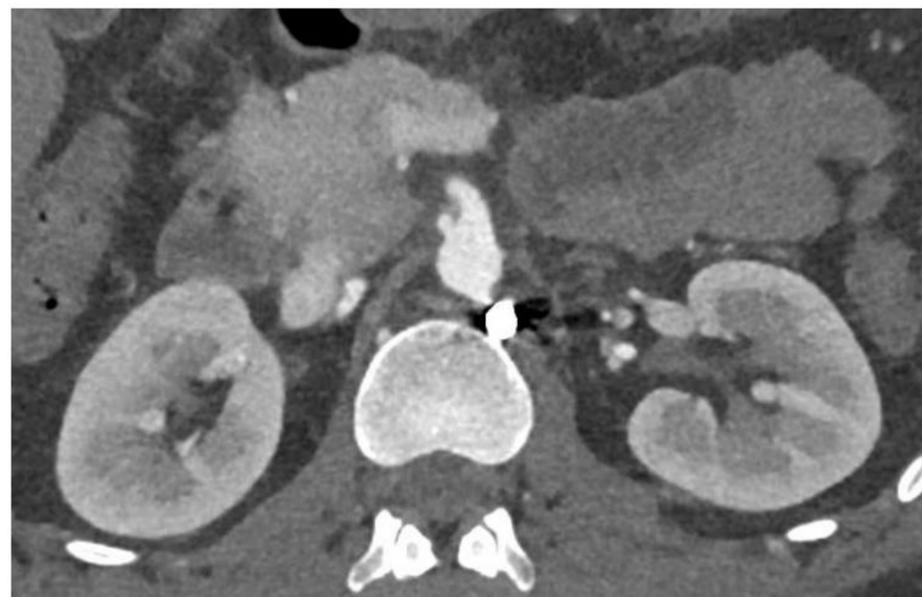


Figure 3: Intraoperative situs after re-laparotomy and right sided visceral rotation: a) visceral aorta; *) pledget-armed suture at the origin of the superior mesenteric artery; b) inferior vena cava; c) left renal vein; d) right renal vein; e) duodenum; f) liver; g) gallbladder; h) right kidney.

