SHORT REPORT

Traumatic Leriche’s Syndrome: Case Report and Review of the Literature

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Introduction

Traumatic lesions of the abdominal aorta are rare due to its protected position. Injury may lead to aortic rupture, dissection, false aneurysm, distal embolization or obstruction. The resulting mortality rate is high, but the outcome may be improved by early diagnosis and treatment. Here, we report and discuss the case of a traumatic Leriche’s syndrome.

Case Report

A 60-year-old patient, driving his car at 45 km/h, collided with a stationary truck. He was not wearing a seat belt and hit the steering wheel with his chest and abdomen. About 2 h after the accident, the patient developed pale and pulseless legs as well as paresthesia and paralysis corresponding to a Leriche’s syndrome. CT revealed a heavily atherosclerotic abdominal aorta with an occlusion proximal to the bifurcation (Figs 1 and 2).

At emergency laparotomy, an aorto–bifemoral PTFE-graft was placed. Since the deceleration trauma caused an avulsion of the terminal ileum and the proximal cecum with consequent bowel ischaemia, bowel resection was also necessary.

After the intervention, the lower extremity circulation was reestablished. Due to a crush-syndrome the patient temporary required haemodialysis. He was also found to have a persistent, but limited paraparesis, probably due to ischaemia of the spinal arteries. MRI could not detect any signs of spinal cord contusion.

Discussion

Leriche was the first to describe “thrombotic obliteration of the aortic bifurcation”.1 Leriche’s syndrome may be chronic (85%) or acute (15%). An acute obstruction is caused by embolism in 65% and thrombosis in 35% of the cases and may be caused by trauma.2

Traumatic lesions of the abdominal aorta are rare. This might be explained by its protected position in the retroperitoneal space next to the vertebral column, firmly fixed by the lumbar arteries.3,4 By contrast, rupture of the thoracic aorta is a well-known injury especially in deceleration trauma and is 20 times more common than in the abdominal aorta.3 Aortic trauma may lead to an intimal lesion or dissection causing partial or complete obstruction. Consequently, peripheral pulses may be decreased or absent (96%). Furthermore, distal embolisation is present in 30% and a false aneurysm develops in 35% of the cases. Traumatic rupture of the abdominal aorta is usually fatal but with no precise frequency given in the literature.3

Computed tomography is the diagnostic tool of choice if a traumatic Leriche’s syndrome is suspected.4 The level of occlusion, the degree of calcification of the aorta and associated lesions can be rapidly evaluated. If the patient is stable, angiography may be considered.5

The treatment of traumatic Leriche’s syndrome is surgical. An aortoiliac or aortofemoral bypass is the method of choice. Transperitoneal access allows the
Fig. 1. CT of the abdomen. Patent aorta (arrow) at the level of the renal arteries.

Fig. 2. CT of the abdomen. Obstruction of the distal aorta (arrow). Note the calcification of the aorta.
diagnosis and treatment of concomitant injuries. It is important to consider the risk of infection incurred by the implantation of a graft in a potentially contaminated field in case of intestinal injury. This risk has been estimated at 2.5%.6

The mortality rate in traumatic aortic injury is 18–37%, because of associated injuries, haemorrhage, embolisation, renal failure, myocardial ischaemia and cardiogenic shock.3

We conclude that traumatic Leriche’s syndrome is a rare pathology, requiring early diagnosis and treatment. Concomitant injuries should always be considered in these cases where high energy transfer trauma leads to aortic injury.

References