

An Unusual Case of Trauma: Pseudo Aneurysm of Superior Mesenteric Artery after Parachute Jumping

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How to cite this article:

Uzmasadia, Srikanth Vijayasimha/An Unusual Case of Trauma: Pseudo Aneurysm of Superior Mesenteric Artery after Parachute Jumping/New Indian J Surg. 2021;12(1):49-50.

Abstract

Pseudo aneurysms of visceral arteries which occur due to blunt abdominal trauma are rare. There are different modalities of blunt abdominal trauma which are seen in seat belt injuries secondary to motor vehicle accidents. We present the case of a 39 year old woman with history of abdominal pain and vomiting following a parachute jump. She was diagnosed with a pseudo aneurysm of superior mesenteric artery. She underwent open exploration and a vein interposition graft was used for the repair of the pseudo aneurysm. The pseudo aneurysm of superior mesenteric artery after a parachute jump has never been reported earlier. This case report highlights the possibility of pseudo aneurysm of superior mesenteric artery even in car seat belt injuries as the mechanism of injury is comparable in both.

Case Presentation

A 39 year old woman who enjoyed adventure sports as a hobby, developed abdominal pain and vomiting immediately after sky diving from 30000 feet at Miami, USA. She was diagnosed and treated for gastroenteritis in the USA, but her symptoms failed to subside. She reached India two weeks later and her symptoms included abdominal pain which was initially generalized and later localized to upper abdomen. The abdominal pain was of continuous

type. She also had recurrent episodes of non-bilious vomiting and was unable to tolerate any solid food. On examination, she was hemodynamically stable. Her abdomen was tender in epigastric, umbilical and right upper quadrants. She had no guarding or palpable mass in the abdomen. Bowel sounds were present.

Management

The patient had no biochemical or haematological abnormalities. An ultrasound of the abdomen revealed a focal aneurysmal dilatation of superior mesenteric artery measuring about 41 x 40 mm with intraluminal thrombus. Further, a CT Scan of the abdomen and pelvis regions revealed an oval well-defined lesion measuring 5.5 x 4.5 x 5.0cm, in between superior mesenteric artery anteriorly and aorta posteriorly, at the junction of the mid and distal superior mesenteric artery, showing filling of the lumen; suggestive of pseudo aneurysm of superior mesenteric artery with thrombus.

The options of endovascular and open surgery were considered for this patient. An angiogram was done pre operatively, with selective catheterisation of the superior mesenteric artery. The pseudo aneurysm was found to arise at the branching of the superior mesenteric artery and hence an open repair was opted for her treatment.

We performed a midline laparotomy. The mesentery was dissected to get proximal control over the superior mesenteric artery. The distal control was obtained over the ileocolic and jejunal arteries. The pseudo aneurysm was opened and clots

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removed. The rent in the superior mesenteric artery was found to be more than 1.5 cm long and after clamping, the mesenteric pulsations were absent. In view of these findings a decision was made to use an interposition graft. The left great saphenous vein was harvested and a reversed vein graft was used as interposition graft. After releasing the clamps, there was good flow through the graft and the intestines appeared well perfused. The patient tolerated the procedure well with an estimated blood loss of 800ml. The patient had an uneventful postoperative period and was discharged on the fifth day. At the twelfth monthly follow up, the patient is doing well and a surveillance ultrasound scan showed that the vein graft is functioning well.

Discussion

There are various patterns of injury seen in blunt abdominal trauma. The involvement of major abdominal vasculature in these injuries is rare. The dissection of the intima of the abdominal aorta caused by direct compression of the vessel between the horizontal part of the seat belt and the vertebrae has been described earlier.^{1,2}

This is an unusual case of pseudo aneurysm of superior mesenteric artery after a fall from parachute jumping. The patient reported that she

had not secured the thigh harness of her parachute straps. During the jump the parachute straps on her abdomen pulled up against her making the mechanism of injury comparable to that seen in a seat belt injury. This case brings to light the possibility of a superior mesenteric artery pseudo aneurysm that can occur even with seat belt injuries. A high index of suspicion and prompt surgical treatment are needed for the optimum management of such cases.

Competing interests

The authors declare that they have no competing interests.

Consent

Written informed consent was taken from the patient for publishing this case report.

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