

CASE REPORT

Blunt abdominal trauma leading to acute abdominal wall hernia- A case report.

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ABSTRACT

Acute traumatic abdominal wall hernia is a rare but serious diagnosis resulting from blunt abdominal trauma. The challenge of managing acute traumatic abdominal hernia is approach and timing of repair. We describe a 32 years male patient's acute traumatic abdominal wall hernia and its management.

Key words: *Abdominal wall; hernia; trauma.*

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INTRODUCTION

Traumatic abdominal wall hernia (TAWH) is defined as a herniation through disrupted musculature and fascia, without skin penetration with no evidence of a prior hernia defect at the site of injury.[1] Handle bar hernia is an example of TAWHs of anterior abdominal wall which was described by Dimyan et al. in 1980.[2] In worldwide literature, less than 50 cases of handlebar hernia have been reported with only three to five cases from India.[3,4]

We report a case of anterior abdominal wall hernia following blunt abdominal trauma in 32 years gentleman.

CASE REPORT

A 32-year gentleman was presented to emergency department following blunt abdominal injury with complaints of pain abdomen and swelling left flank. There was history of fall from height of 12-14 meters on to a blunt object. No history of loss of consciousness and vomiting during that period. He started to have abdominal pain and discomfort along with left flank fullness. The Glasgow Coma Scale (GCS) was 15 at presentation and the vital signs were within normal limits. On examination he had abrasion with bruises over the skin, along with left flank swelling. Swelling gradually increased in size with cough impulse during examination at emergency. Per abdomen, he had signs of peritonism.

With the suspicion of abdominal wall hernia due to trauma and to know status of other intra-abdominal injury, contrast enhanced CT scan abdomen was done, which revealed 4.8 cms craniocaudal defect in anterior wall musculature on left lateral wall of abdomen with herniation of mesenteric fat (figure 1). He underwent diagnostic laparoscopy, which revealed the defect and minimal hemoperitoneum with mesenteric tear (figure 2). Then he underwent open mesh repair for TAWH. Post-operative period was uneventful and patient was discharge on 3rd post-operative day.

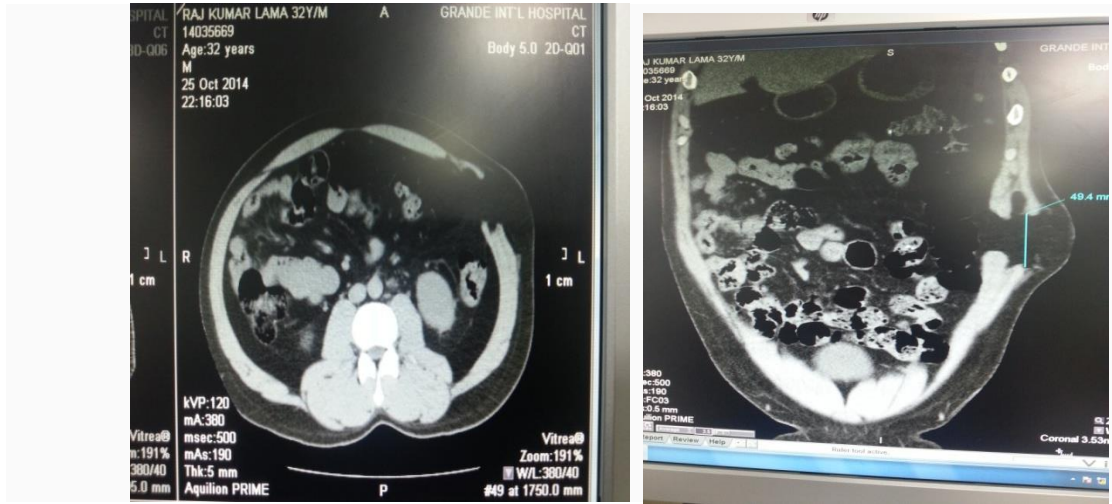


Figure 1: CECT abdomen showing TAWH



Figure 2: Laparoscopic view of the Hernia.

DISCUSSION

Traumatic abdominal hernia was first described by Selby in 1906.[5] The pathophysiology of TAWH involves the application of a blunt force to the abdomen over an area large enough to prevent penetration of the skin and the tangential forces resulting in a pressure-induced disruption of the abdominal wall muscles and fascia, allowing subcutaneous herniation of abdominal viscera through the defect, as proposed by Ganchi.[6]

As the skin is more elastic than the other layers of the abdominal wall, it remains intact even though the underlying musculature and fascia are disrupted which gives rise to TAWH.[7] As in our case, skin was intact though multiple abrasions are noted.

Contrast enhanced CT scan (CECT) and Ultrasonography can be used to evaluate the associated intra-abdominal injuries along with TAWH. In our case we have done FAST scan which revealed defect in anterior abdominal wall otherwise no any intraabdominal collection. Since mode of injury was grievous, CECT whole abdomen was planned.

Early surgical repair is necessary for definitive treatment and also to prevent high morbidity and mortality. Recently, Netto et al.[8] carried out a retrospective review of 34 patients with traumatic abdominal wall hernia, and made three recommendations. First, they concluded that the mechanism of injury should be considered when deciding on operative intervention. Second, clinically apparent hernias often have associated injuries and warrant urgent laparotomy. Finally, occult hernias may be managed expectantly.

Three types of TAWH were described by Wood et al. according to the mechanism and size of injury.[3,9,10] Type I are small defects caused by blunt trauma. In Type II, larger defects occurring during motor vehicle crashes. In Type III, there are abdominal wall defects with bowel loop herniation following deceleration injuries, which are extremely rare.[9,10] Our case fulfills the criteria of type III, which has omental herniation.

CONCLUSION

TAWH with bowel herniation must undergo urgent surgical measures to prevent bowel injury and to avoid complications. Incision directly over the defects, instead of midline incisions are preferred for proper repair of defect. Mesh repair is desirable with weak anterior abdominal wall so as to prevent the long-term complications of recurrences.[11]

CONFLICT OF INTEREST

None

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REFERENCES

1. Danmchen DD, Landercasper J, Cogbill TH, Stolee RT. Acute traumatic abdominal hernia: case reports. *J Trauma*. 1994; 36: 273-6.
2. Dimyan MB, Robb J, McKay C. handle bar hernia. *J Trauma*. 1980; 20: 812-3.
3. Aggarwal N, Kumar S, Joshi MK, Sharma MS. Traumatic abdominal wall hernia in two adults: A case series. *J Med Case Reports*. 2009; 3: 7324.
4. Losanoff JE, Richman BW, Jones JW. Handlebar hernia: Ultrasonography aided diagnosis. *Hernia*. 2002; 6: 36–8.
5. Selby CD. Direct abdominal hernia of traumatic origin. *JAMA*. 1906; 47: 1485–6.
6. Ganchi PA, Orgill DP. Auto penetrating hernia: A novel form of traumatic abdominal wall hernia: case report and review of the literature. *J Trauma*. 1996; 41: 1064–6.
7. Lane CT, Cohen AJ, Cinat ME. Management of traumatic abdominal wall hernia. *Am Surg*. 2003; 69: 73–6.
8. Netto FA, Hamilton P, Rizoli SB, Nascimento B Jr, Brenneman FD, Tien H: Traumatic abdominal wall hernia: epidemiology and clinical implications. *J Trauma* 2006, 61: 1058–1061.
9. Huang CW, Nee CH, Juan TK, Pan CK, Ker CG, Juan CC. Handlebar hernia with jejunal and duodenal injuries: A case report. *Kaohsiung J Med Sci*. 2004; 20: 461–4.
10. Hassan KA, Elsharawy MA, Moghazy K, AlQurain A. Handlebar hernia: A rare type of abdominal wall hernia. *Saudi J Gastroenterol*. 2008; 14: 33–5.
11. Singal R, Dalal U, Dalal AK, Attri AK, Gupta R, Gupta A. Department of surgery, Maharishi Markandeshwer Institute of Medical Sciences and Research, Mullana, Ambala, Haryana, India. *J Emerg Trauma Shock*. 2011 Jan-Mar; 4(1): 142-5.