

Complete Isolated Duodenal Transection Due to Blunt Abdominal Trauma: A Case Report

Dr. Anil Kumar¹, Dr. Vivek Bhasker², Dr. M. Sarawagi³, Dr. Jyoti Kumari⁴

¹1st year PGT, RIMS, Ranchi

²Senior resident, RIMS, Ranchi

³Associate Professor, RIMS, Ranchi

⁴1st year PGT, RIMS, Ranchi

Abstract: *Road traffic accidents are a leading cause of blunt abdominal trauma¹. Very rarely blunt abdominal trauma can lead to complete duodenal transection with/without injury to pancreas. In appropriate patients primary repair with gastrojejunostomy is a good option for treatment.*

Keywords: duodenal transaction, blunt abdominal trauma, abdominal exploration, gastrojejunostomy

1. Introduction

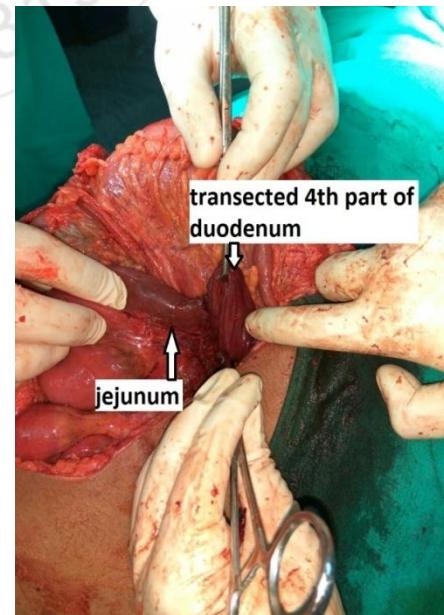
Duodenal transection without pancreatic injury is very rarely seen in cases of blunt abdominal trauma. Preoperative diagnosis is very difficult and very often exact picture becomes clear only after abdominal exploration^(2, 3). This case report describes one such rare case of complete duodenal transaction without pancreatic injury in a blunt abdominal trauma victim.

2. Case Report

A 25 year old male patient came to surgical emergency in RIMS, Ranchi with complain of pain abdomen following blunt abdominal trauma due to road traffic accident. He had sustained the injury 12 hours before the time of admission. Patient explained that he was driving a car wearing seatbelt when the accident happened. On examination patient was conscious alert and cooperative. Pulse rate was 120/min; BP- 100/70mm Hg. Abdominal examination showed a transverse bruise in the epigastric region. Abdomen was distended & tender. Guarding and rigidity were present. Routine blood examination showed raised TLC count. Blood electrolytes were within normal limits. X-ray abdomen in erect posture showed free gas under diaphragm. Decision of exploratory laparotomy was taken. On laparotomy 2 liters of bilious fluid was aspirated from abdominal cavity. Complete transaction of small bowel at duodeno-jejunal junction was found. Duodenum was kocherised and pancreas was examined. No pancreatic injury was present. Small tear in mesentery was also seen. After trimming out devitalized tissue end to end anastomosis was done between fourth part of duodenum and jejunum. Nasogastric tube was passed beyond anastomosis. After taking sufficient length of jejunum, tension free gastrojejunostomy was done. Generous peritoneal lavage was given, drain placed and abdomen was closed in layers.

Post-operative recovery was uneventful. Nasogastric tube output decreased after 48 hours and it was removed on 4th postoperative day. Sips of plain water were allowed from 5th postoperative day and the patient was gradually shifted to normal diet. Abdominal drain was removed on 7th post

operative day. On 10th postoperative day stitches were removed and patient was discharged a day after.





3. Discussion

Blunt abdominal trauma (BAT) comprises 75% of all abdominal traumas. The most common cause of blunt abdominal trauma in eastern India is road traffic accident (57.2%)¹. Seatbelt trauma can lead to injury of hollow organs². Incidence of duodenal injury is very less and complete transaction of duodenum without injury to pancreas is a rare presentation. There are two basic physical mechanisms at play with which can injure intra-abdominal organs in cases of Blunt abdominal trauma — *compression* and *deceleration*. Approximately around 72% to 80% of duodenal injuries can be repaired with primary suture and 20–28% cases need complex procedures^(3,4). Primary repair of the duodenum is a viable option for the management of moderately severe duodenal injuries especially where pancreas and pancreatic duct are not damaged⁵.

4. Conclusion

Complete duodenal transection without pancreatic injury is very rare presentation. Preoperative diagnosis is difficult because the condition of patient deteriorates very quickly. High index of suspicion (especially in cases where seatbelt trauma is the cause of the injury) is the key in early detection of such injury. In carefully selected patients primary anastomosis of the transected segment along with gastrojejunostomy is a viable option of treatment.

References

- [1] Abbas AK, Hefny AF, Abu-Zidan FM. Seatbelts and road traffic collision injuries. *World J Emerg Surg*. 2011; 6:18.
- [2] Jha NK, Yadav SK, Sharma R, Sinha DK, Kumar S, Keretta MD, Sinha M, Anand A, Gandhi A, Ranjan SK, Yadav J. Characteristics of Hollow Viscus Injury following Blunt Abdominal Trauma; a Single Centre Experience from Eastern India. *Bull Emerg Trauma*. 2014; 2(4):156-160.
- [3] Asensio JA, Feliciano DV, Britt LD, Kerstein MD. Management of duodenal injuries. *Curr Probl Surg*. 1993; 30:1023–93.
- [4] Carrillo EH, Richardson JD, Miller FB. Evolution in the management of duodenal injuries. *J Trauma*. 1996; 40:1037–45.
- [5] Neugeberger H, Wallenbock E, Engelbert M, Hungerford M. Seventy cases of injuries of the small intestine caused by blunt abdominal trauma: a retrospective study from 1970 to 1994. *J Trauma*. 1999; 46:116–21.
- [6] Mirvis S, Gens D, Shanmuganathan K. Rupture of the bowel after blunt abdominal trauma: diagnosis with CT. *AJR Am J Roentgenol*. 1992; 159:1217–21.
- [7] Lucas CE, Ledgerwood AM. Factors influencing outcome after blunt duodenal injury. *J Trauma*. 1975; 15:839–46.
- [8] Boone DC, Peitzman AB. Abdominal injury-duodenum and pancreas. In: Peitzman AB, Rhodes M, Schwab SW, Wealy DM, editors. *The Trauma Manual*. Philadelphia: Lippincott-Raven; 1998. p. 242
- [9] Kelly, G., Norton, L., Moore, C. and Eiseman, B. (1978) The continuing challenge of duodenal injuries. *J. of Trauma*, 18, 160-165
- [10] Martin, T.D., Feliciano, D.V., Mattox, K.L. and Jordon, G.L. (1983) Severe duodenal injuries: Treatment with pyloric exclusion and gastrojejunostomy. *Arch.Surg.*, 118, 531-535
- [11] Lee, D., Zacker, J. and Vagel, T.T. (1976) Primary repair in transection of duodenum with avulsion of the common duct. *Arch.Surg.*, 111,592-593