VOLUME-7, ISSUE-10, OCTOBER-2018 • PRINT ISSN No 2277 - 8160

Original Research Paper

Surgery

# RETROPERITONEAL DUODENAL INJURY FOLLOWING BLUNT TRAUMA ABDOMEN- A CASE REPORT AND REVIEW OF LITERATURE

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**ABSTRACT**

A 12yr old boy had blunt trauma abdomen due to a fall of a portion of wall on his abdomen while he was sleeping. He went to a private hospital where he was admitted for about 12hrs and was then referred to our institute. At presentation here he had pulse rate-120/min, blood pressure- 90/60mmHg, abdomen distended with generalized guarding present. He was resuscitated and investigated. X-ray abdomen showed free gas under diaphragm. A diagnosis of perforation peritonitis was made. He then underwent exploratory laparotomy. On exploration, thinned out bluish black bulge in retroperitoneum in infracolic region on right side was seen. The thinned necrotic peritoneum over bulge was opened. There was discharge of bilious and fecal material from the opening. Suctioning and lavage was done and a complete transaction[1] of duodenum at D2 – D3 junction was found. Both the proximal and distal ends of duodenum were mobilized, margins freshened and a primary end to end anastomosis[2] was accomplished in a tension free manner with 2-0 Monocryl in a single layer. Antecolic isoperistaltic gastrojejunostomy[3] was also done as an adjunct procedure to prevent leak and drains were inserted in the paraduodenal area and pelvis.In the post operative period patient had bilious discharge from paraduodenal drain for about 2 weeks. Initially it was around 200ml, with time it decreased to about 50ml by the end of 1st week. After 2 weeks drainage stopped. Patient was allowed orally after 5days of surgery, initially liquids then shifted to semisolid diet. After 2 weeks drain removed and patient discharged on postoperative day 20 in stable condition.

**KEYWORDS** : Retroperitoneal Duodenal Injury, Gastro Jejunostomy, Traumatic D2-d3 Transaction, Triple-tube-ostomy, Pylorus Exclusion

## INTRODUCTION

Blunt duodenal injury is an uncommon entity with serious consequences. It comprises 0.2–3.7% of all trauma related laparotomies. The incidence of duodenal injuries is 11.2–26% due to blunt trauma abdomen[4]. Diagnosis is delayed due to minimal signs and symptoms. It can involve any part of duodenum but 2nd and 3rd part are most common and injury can be at multiple places. So, complete kocherization should be done in all cases with suspected duodenal injury. Free perforation with peritonitis feature is less common. We describe a case of duodenal injury with feature of peritonitis and review the method of treatment for duodenal injury.

## CASE STUDY

Retroperitoneal duodenal injury is an uncommon entity following blunt trauma abdomen. In our case the patient presented with features of peritonitis which is not a common mode of presentation of duodenal injury. What is more common is no finding of peritonitis with subtle presentation therefore the diagnosis is generally delayed. The injury can be of different types and includes single perforation, multiple perforation, complete duodenal transaction and may be associated with adjacent organ injury especially pancreas, colon and major vessels of abdomen.

Complete kocherization of duodenum is important to rule out multiple injury if one is found. The most common treatment is primary repair of perforation and end to end anastomosis. But also requires some other adjunctive procedures in preparation to prevent or minimize leak in postoperative period. Adjunctive procedures may include gastrojenunostomy, pylorus exclusion[5], triple ostomy procedure[6], duodenal diverticulisation[7]. Whipples procedure[8] is also required with associated massive pancreatic trauma with ductal disruption. The principle of surgery includes repair which is tension free viable with good vascularity. If we are not able to achieve this, then Roux-en-Y duodenojejunostomy[9] with jejuno jejunostomy[10] may be required.

In our case, although it was complete transaction but with mobilization of both ends we were able to do anastomosis in a tension free manner. Gastrojenunostomy was done as an adjunctive procedure to minimize leak if any in post-operative period. A leak rate of 10% is described in literature. Our patient also had a leak but it was a minor leak which decreased over a period of 1-2 weeks and during this period also the patient was given liquid to semi-solid diet.

So, while dealing with duodenal trauma a variety of different injuries can be encountered.

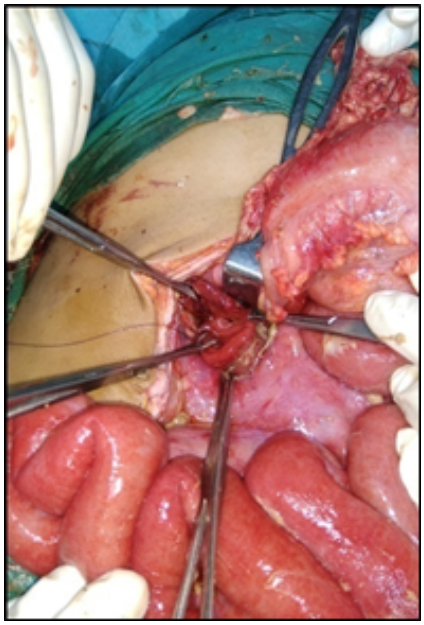

**FIGURE 1: Complete duodenal transaction at D2-D3 junction**

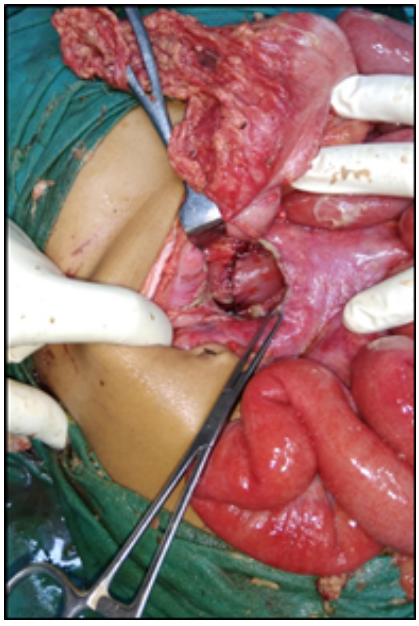

**FIGURE 2: End To End Anastomosis Duodenal Transaction.**

## CONCLUSIONS

All general surgeons should be well versed with these injury patterns and their mode of presentation which varies from case to case so as to deal with these injuries in a most appropriate manner to prevent their associated increased morbidity and mortality.

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