SAVING PATIENT FROM RELAPAROTOMY : ENDOSCOPIC MANAGEMENT OF DUODENAL REPAIR LEAK

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INTRODUCTION

- Duodenal perforations are surgical challenging to treat entity
- Leakage in a surgically repaired duodenal(D1) perforation in a ailing patient is a surgical disaster
- With poor general health, subjecting patient to another laparotomy is always a double edged sword
- In the era of minimal access surgery, a trial via endoscopy (by OTSC-over the scope clipping) to treat duodenal perforation and saving the patient from dreadful complications of re-laparotomy seems to be a novel approach

CASE REPORT

- 34year old lady presented to surgery emergency with chief complaints of:
  - Severe dull aching pain abdomen since last 2 days, with multiple episodes of non bilious vomiting since last 2 days. On examination patient was conscious, oriented was in septic shock and findings were s/o peritonitis. Ultrasonography of Abdomen, showed a perforated gall bladder with suspicious enteric (duodenal fistula)
  - With due consent, patient underwent emergency laparotomy with cholecystectomy with graham patch repair for duodenal perforation with sub-hepatic drain placement
- After 2 weeks in post operative patient developed
  - Dull aching pain in diffuse abdomen with multiple episode of non bilious vomiting
  - On Examination: patient was conscious, oriented, frail look with BP: 102/60mmHg, PR: 110bpm, SpO_2: 93% on room air, ABG: Metabolic Acidosis and Abdomen had tenderness in RHC with localized guarding and drain showed an output of 70ml/day of gastric content

INVESTIGATIONS

- Patient was resuscitated
- Blood was sent for investigation and culture sensitivity and cross matching
  - Report was analyzed as:
    - Moderate anemia (Hb: 7.2mg/dl), TLC (1700/mm3)
    - LFT: WNL, Hypoproteinemia
- **Ultrasonography of Abdomen**: 40cc multiple large heterogenous thick walled loculated collection in epigastric region and pelvis.
- **CECT Abdomen**: s/o leak from duodenal repair site

MANAGMENT

- Patient kept NPO with parenteral nutrition, blood transfused (1 unit pcv) with post transfusion Hb: 8.1mg/dl
- In view of poor general health, 2 weeks post op (possibility of post op adhesions) a trial of endoscopic approach was taken
- Patient underwent Upper GI endoscopy: 1×1.5cm perforation noted in D1 segment of duodenum with rest of overlying mucosa the visualized was WNL
- Over the scope clipping through endoscope of the perforation site done
- Post procedure: Patient recovered well, allowed orally on POD5 following a normal gastrograffin fluoroscopic study and was discharged on POD7

CONCLUSION

- A promising minimal access approach to treat duodenal perforation (D1 segment) and avoiding subjecting the patient to complications of another general anaesthesia and re-exploratory laparotomy in immediate post op period

1. Solomon M, Schlachterman A, Morgenstern R. Iatrogenic duodenal perforation treated with endoscopic placement of metallic clips: a case report. Case Rep Med. 2012;2012:609750. Epub 2012 Feb 12.
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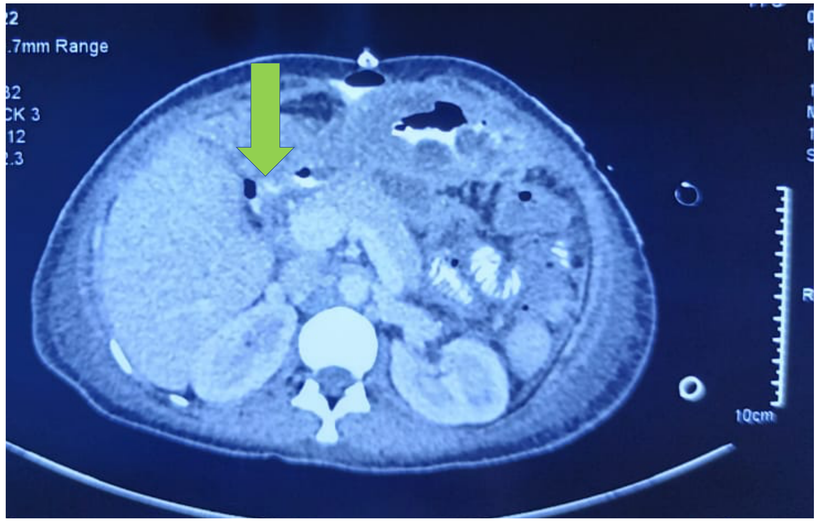


Figure1: Leak of oral contrast from d1 segment duodenum with air pockets

DISCUSSION

- In the era of minimal access surgery, endoscopic procedure are gaining popularity.
- In last few years, upper gi endoscopic treatment is preferred in mainly iatrogenic small perforation with almost no/least spillage of content in peritoneal cavity of esophagus, stomach, duodenum.
- Usually keeping in mind, the inflammation of the tissue of surrounding gi tract and level of spillage, delayed presentation of duodenal perforation, leak of surgically repaired duodenal perforation in post op period is in very few cases is considered to be a candidate for endoscopic closure.
- In cases where patient has increase morbidity with anesthesia for a re-laparotomy, studies are needed to support trial of endoscopic approach for securing the leak site, as attempted in this case with support of good resuscitation, close monitoring, usg guided percutaneous drainage of collection, endoscopic clipping attempted by good experienced GI surgeon/gastroenterologist.