



GRAHAM OMENTAL PATCH IS A SAFE AND RELIABLE TECHNIQUE FOR TREATMENT OF A LARGE DOUBLE DUODENAL-JEJUNAL (DJ) JUNCTION PERFORATED ULCERS: A CASE REPORT

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ABSTRACT

The annual incidence of peptic ulcer ranges from 0.1% to 0.3%. Perforation of duodenal ulcer carry mortality up to 11 %, with a higher mortality seen in patients over the age of 50 years and in those who present late to the hospital. We reported a case of 48 years old gentleman who presented with acute abdomen with peritonitis. Exploratory laparotomy was performed revealed a large double perforated ulcer at Duodenal-Jejunal junction (DJ junction) which was successfully repaired with conventional and classical Graham Patch. Various modalities applied including re-laparotomy to establish leaking of Graham Patch repair post operatively; however those shows DJ junction was intact with no sign of leaking. We advocate that conventional Graham Patch repair for DJ Junction perforated ulcer is safe and reliable technique.

Keywords: Double perforated Ulcer at DJ Junction, Graham Patch.

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INTRODUCTION:

The first report of a series of patients presenting with perforation of a duodenal ulcer was made in 1817 by Travers. The earliest operative description was made by Mikulicz in 1884 but the first successful operation for a perforated duodenal ulcer was not until 1894 [1]. Over the last two decades there have been a number of advances in the management of perforated duodenal ulcer that have suggested that the morbidity and mortality of the disease might be decreased. These include risk stratification to define patients suitable for various treatment protocols, an expanded role for non-operative treatment, a developing role for laparoscopic surgery and more precise identification of those patients suitable for immediate definitive ulcer management [2]. Most recently the discovery of the role of *Helicobacter pylori* in the pathogenesis of duodenal ulcer threatens to change the entire management algorithm for perforated duodenal ulcer [3] Graham patch is a technique widely used for a repair of duodenal ulcer perforation. It was first described by Dr. Roscoe Reid Graham 1937.

When it was successfully repaired 51 patient of perforated duodenal ulcer instead of gastro-enterostomy [4]. He concluded that omental patch is more than sufficient enough to treat perforated duodenal ulcer. Since then the technique was widely used for perforated duodenal ulcer and some extent it was used for small

pre-pyloric or gastric ulcer. We advocate that conventional Graham Patch repair for DJ Junction perforated ulcer is safe and reliable technique.

CASE REPORT:

We report a case of 48 years old gentleman, presented to emergency department with the complaint of sudden onset of generalized abdominal pain for 3 weeks, started at epigastric periumbilical region with crampy and constant in nature and associated with non-projectile vomiting 4-5 times per day. The vomitus contains undigested food and clear fluid without haematemesis. He also claims of having diarrhea with loose stool 2-3 times per day and malaena. On further history, the patient had also taking traditional medications and over-the-counter pain killers, for several years due to knee pain. No history of fever.

On physical examination, patient was septic looking, dehydrated, tongue was coated. His body temperature was 36.5 and blood pressure was 121/86 mmHg with tachycardia (150 beats/min) and tachypnea (22/min). Per abdomen there was generalized tenderness, distended and guarding. There was reducible umbilical hernia measuring 3 cm x 3cm non-tender. Bilateral inguinal orifices are intact. Bilateral testes are normal and digital rectal examination was revealed no mass palpable. Radiological investigation the chest X-Ray

Erect AP there were no air under the diaphragm. A diagnosis of acute abdomen with peritonitis was made with an assumption of perforated appendicitis. After initial fluid resuscitation our patient underwent emergency exploratory laparotomy. Laparotomy was started with Lanz incision and revealed normal appendix. Then proceed with midline laparotomy and revealed one liter of non-foul smelling pus in the abdomen. There were presences of two ulcers which were perforated at duodenum-jejunal junction (DJ Junction) measuring about 1cm each. The ulcers were repaired with conventional classical Graham omental patch using 2/0 viral, a thorough lavage of the peritoneal cavity with warm saline and drain inserted near the repair. Other part of the bowel is normal. Immediate post operative was uneventful however after a week post operative, patient was sepsis. Abdomen examination revealed not peritonitis. A suspicion of leaking ulcer was made. An ultrasound abdomen was done shows no significant free fluid in the abdomen. Patient was managed conservatively with an antibiotic. However, patient not responded well with antibiotic, a contrast-enhanced CT scan of abdomen was done shows no evidence of leaking contrast. Presences of minimal subhepatic hepatic and interloop collection were also detected in the CT scan. A percutaneous CT guided drainage for subhepatic collection was attempted, but failed due to difficult location. Conservative management with changing of antibiotic to Polymycin B was made. After 3 days with antibiotic patient doesn't shows any improvement, an emergency laparotomy was performed with intention of peritonitis. However intraoperative finding revealed the Graham patch repair was intact with no sign of leaking ulcer. Minimal interloop collection and subhepatic collection was drained out and intra peritoneal lavage was made. Post operatively patient was managed in ICU. Unfortunately, after a month in ICU, the patient developed sepsis with multiorgan dysfunction syndrome. He was pronounced death in ICU.

DISCUSSION:

Perforation of a duodenal ulcer is a surgical emergency that still carries a risk of mortality. A study showed that an iatrogenic of a large duodenal perforation measuring 2.5 cm was seen in the first part of the duodenum with the ulcer edge was friable and necrotic with the surrounding mucosa thickened and edematous a primary closure was attempted but was unsuccessful and in view of the patient was unstable and too ill for a major procedure, a loop of jejunum was brought up to the perforation and sutured to the defect, using interrupted absorbable sutures (jejunal serosal patch) [5]. Graham patch was known for repair of duodenal or gastric ulcer perforation. It was establish since 1937 by Roscoe Graham where he operated on 125 patients with perforated duodenal ulcers and only 6.4% mortality rate on that time due to other complication like pneumonia, pulmonary embolism and subphrenic abscess [6]. There was no other data or case report for Graham Patch technique for treatment of DJ junction perforated ulcer [7].

In our patient we have dealt with a double large Duodenum-jejunal junction perforated ulcer by using conventional Graham omental patch as a definitive

surgery. Post operatively we have shown that no evidence of leaking with various modality. At first we have tried to establish any sign of leaking by doing an abdominal ultrasound, but that finding suggested either ways. Then a contrast-enhanced CT scan abdomen pelvis shows no sign of contrast leaking from duodenum or jejunum. Exploratory laparotomy was also performed in doubt of leaking ulcer, but the finding shows the repair was intact and no sign of leaking ulcer. Apart of a rarity of the case, the purpose of this writing is to mention that conventional Graham Patch repair for DJ Junction perforated ulcer is safe and reliable technique.

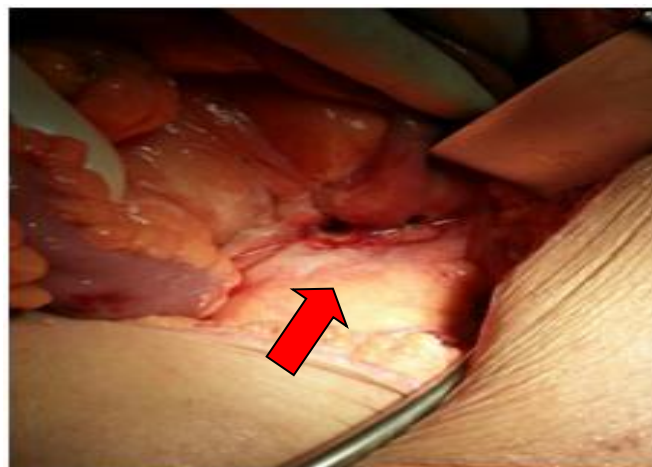


Image 1: Presence of two ulcers at DJ Junction

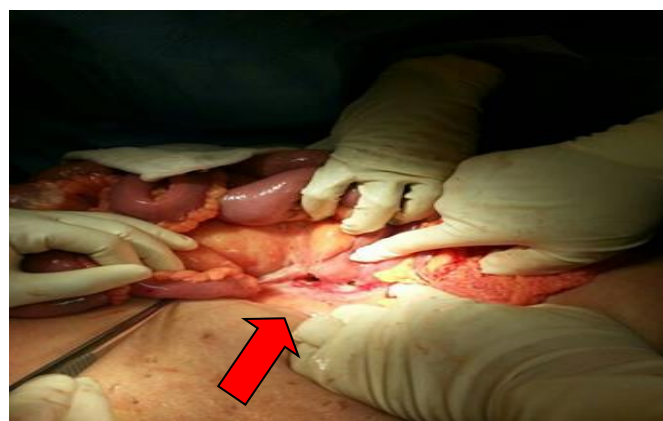


Image 2: Surgeon identified the ulcers at DJ Junction

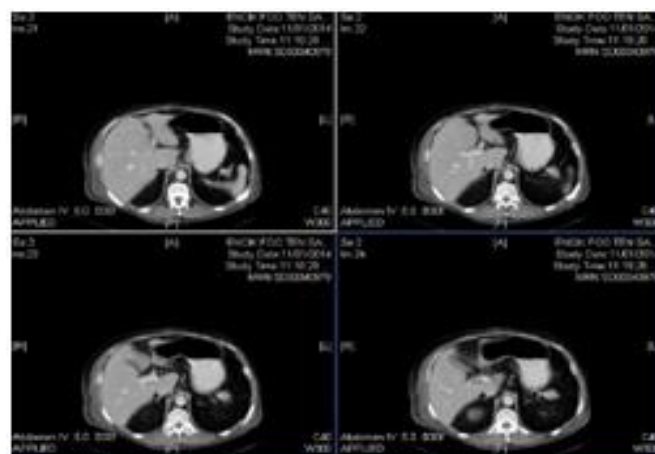


Image 3: Horizontal view of contrast enhanced ct image post Graham Patch repair

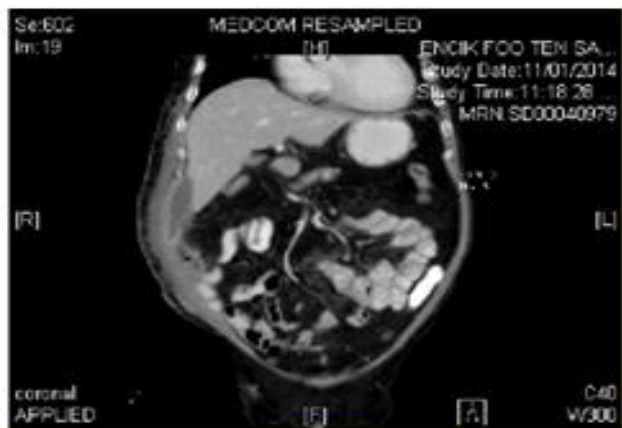


Image 4: Coronal view of contrast enhanced ct scan image post Graham patch repair

CONCLUSION:

Conventional and classical graham patch repair is a safe and reliable technique for DJ junction perforation even with presence of two huge ulcers in our case.

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