

Study of Modified Graham's Patch Repair of Perforated Peptic Ulcer

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INTRODUCTION

The incidence and hospitalization rate for peptic ulcer disease has decreased since the 1980s, but still remains one of the most prevalent and costly GI diseases. Although the role of surgery in the elective treatment of ulcer disease has decreased, but the percentage of patients requiring emergent surgery for complicated disease has remained constant at 7 % of the hospitalized patients. Perforation has the highest mortality rate of any complication of ulcer disease approaching 15%.

Two thirds of all the peptic ulcers manifest as a duodenal ulcer. Most perforations arise from ulcers in the anterior aspect of the duodenal cap (92%). A duodenal ulcer occurs when an imbalance occurs between the protective factors and the aggressive factors. The pathogenesis being multifactorial. NSAIDs and H. pylori are the two major etiologies.

The patient presents with typical complaint of sudden onset severe epigastric pain that may progress to involve the entire abdomen. The pain caused by the spillage of highly caustic gastric secretions into the peritoneum rapidly reaches peak intensity and remain constant. Physical examination reveals low grade fever, diminished bowel sounds, and rigidity of the abdominal wall musculature. The patient may also present with shock, tachycardia, hypotension and diminished urine output. Diagnosis can be made based on clinical picture, routine laboratory investigations and imaging studies. There is leucocytosis (with left shift in many cases). A upright chest radiograph or lateral decubitus radiography reveals evidence of free air (pneumoperitoneum). In a few doubtful cases CT scan of the abdomen can be done, which may demonstrate free air in the presence of perforated peptic ulcer.

The type and timing of operative intervention for a perforated peptic ulcer has been debated for decades. The first description of simple closure for a perforated peptic ulcer was provided by Graham in 1937. We conducted a prospective study at the department of General Surgery, PGIMS Rohtak to evaluate this technique as a treatment in patients presenting with a perforated peptic ulcer and the outcomes of the surgery in the follow up.

PATIENTS AND METHODS

A total of 76 patients were included in the study which was operated in the time period from 1st January 2016 to 31st December 2016. Provisional diagnosis was made from history, clinical findings, radiological finding of gas under the domes of diaphragm, and confirmed intra-operatively. All patients, on admission, received intravenous fluids, antibiotics, nasogastric aspirations, monitoring of vitals until surgical intervention. Upper midline incision was given in all cases. After confirmation of diagnosis, peritoneum lavage was done with 2-3 L of warm normal saline with special attention to irrigate the suprahepatic and infrahepatic recesses, the lesser sac, the paracolic gutters and pelvis. After the omentopexy, two drains e.g. in Morrison's pouch and pelvis were placed and fixed. The midline abdominal wound was closed.

In Graham's omentopexy (GO), laparotomy pads were placed around the perforation site to contain any further spill while 3-4 full thickness suture bites perpendicularly between the edges were placed approximately 0.5 cm away from one margin to the other sutures were being placed followed by mobilization of a vascularized tongue of free omentum so that sutures are successively tied from superior to inferior aspect across the omental patch to anchor the omental graft in place, based on the principle of direct omentopexy.

Modified Graham's omentopexy: (MGO) (our technique) was based on the principle of indirect omentopexy. After placing through and through sutures, they are tied in an attempt to approximate the wall defect and without cutting the sutures, a vascularized segment of omentum is then brought on top of the closed perforation and tied knots and the same sutures are

used to tie down the omental patch over the already approximated perforation with second level of knots , thus the omentum remain sandwiched between two levels of secured knots.

Detailed data (age, sex and duration of presentation, size of perforation and post-operative complications) were revealed from the case records and analyzed. Both groups were compared in terms of post-operative complications, average hospital stay statistically using Fischer's exact test. Post-operatively, all patients were prescribed for a 14 days course of standard triple drug therapy to eradicate *Helicobacter pylori* and followed-up for 3 months to note any adverse effects or recurrence, secondary to the surgical approach adopted.

RESULTS

Out of the total 76 patients treated with Modified Graham's patch repair, 64 patients (84.2 %) had full uneventful recovery; 8 patients (10.5%) had to be re-operated. Overall mortality rate was 7.8% (6 patients) which included those expiring due to comorbid conditions.

CONCLUSION

Modified Graham's patch repair, although an old technique, still continues to be one of the simplest and most effective techniques to tackle perforated peptic ulcer.

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