

Non Operative Management of Sealed Off Peptic Ulcer Perforation: A Clinical Study at a Rural Institute

Balachandar M.¹, Anirudh Suseel N.²

¹Professor and Unit Head ²PG Resident, Department of General Surgery, P.E.S. Institute of Medical Sciences and Research, Kuppam, Andhra Pradesh 517425, India.

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Abstract

The most common cause of Peptic ulcer perforation is ulcer disease.

In a perforation (1) which appears to have sealed itself already, as shown by diminished pain and improved abdominal signs. (2) Heart or lung disease, which increases the surgical and anaesthetic risks. (3) The patient who is admitted after a day or two and is almost moribund with diffuse peritonitis, non-operative treatment may be best.

We undertook a prospective study in the Department of General Surgery at PESIMSR, Kuppam in the period between September 2017 to May 2018 over a period of 9 months with a study population of 20 patients, to evaluate the results and to assess the feasibility of a non-operative treatment for sealed off perforated peptic ulcers.

All were treated conservatively with *Herman-Taylor regime* i.e, NPO, RT drainage, IV Fluids, IV antibiotics (Changed as per peritoneal tap culture), PPIs and Parenteral nutrition. Flank drains were placed if necessary. Once allowed orally after few days (>48hrs) patients were started on HP kit (for 14 days), multivitamins, high protein diet and good hydration.

All 20 patients successfully recovered and thus we conclude the importance of conservative management in sealed off peptic ulcer perforations and thus reducing the mortality, morbidity and monetary burden associated with surgical management.

Keywords: Ulcer; Peptic ulcer; Perforations.

Introduction

Peptic ulcer disease remains the most common cause of Peptic ulcer perforation world wide with duodenal, antral and gastric body ulcers accounting for 60%, 20% and 20% ulcers.

Immediate operative repair is the most widely practised therapy for peptic ulcer perforations Fig.1

The fact that non-operative treatment for sealed off perforated peptic ulcers may be successful has been recognized since 1870 by Redwood. Non-operative treatment, in 1935 by Wangenstein, has been shown to be safe and effective in selected patients. It has been known that perforated ulcers frequently get sealed spontaneously by the adherence of the omentum and the adjacent organs.

The first conservative treatment series for perforated peptic ulcer was described by Taylor in 1946.

In 1964 Herman - Taylor reported the conservative treatment of 256 patients with perforations: only 21 patients required surgery and the overall mortality rate was 11 per cent.

Seely and Campbell reported seven deaths in 139 patients treated conservatively, a mortality rate of 5 per cent.

Aim

To assess the feasibility of a non-operative treatment for sealed off perforated peptic ulcers with Herman-Taylor regime.

Corresponding Author: Anirudh Suseel N., PG Resident, Department of General Surgery, P.E.S. Institute of Medical Sciences and Research, Kuppam, Andhra Pradesh 517425, India.
E-mail: saimarabala@gmail.com

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Materials and Methods

This prospective case series study was carried out in the Department of General Surgery, PESIMSR, Kuppam, Andhra Pradesh, India, from September 2017 to May 2018. The total number of cases studied were 20. The clinical details are shown in Tables 1.

All the 20 patients underwent a detailed clinical examination, routine hematological investigations, serum electrolytes, X-ray of the erect abdomen and USG of the abdomen. In doubtful cases, a CT scan with an oral contrast was done. (Fig. 2 & 3).

The inclusion criteria consisted of a clinical diagnosis of perforation in more than 24 hours with a stable hemodynamic condition, age -20-70 years and a X-ray with pneumo-peritoneum with debris in sub diaphragmatic space and /or a CT evidence of a pneumo-peritoneum with no active contrast leak.

The conservative management with *Herman-Taylor regime* was followed which consisted of IV fluids (to maintain hydration and correct electrolyte imbalance), intravenous antibiotics (Triple antibiotics) and IV Pantaprazole. Ryle’s tube no 18 was placed and was used to empty the stomach, by continuous drainage and 2nd hourly aspiration.

Diagnostic bi flank needle aspiration was done and sent for culture, later antibiotics were changed accordingly. Bi flank drains were placed and saline irrigation done in few people to drain the leaked out contents. Strict input-output chart and hourly TPR BP charts were recorded.

The abdomen was examined frequently for distension, tenderness and bowel sounds. Per rectal examination and review USG pelvis was done to rule out pelvic collection. For the first 2-3 days, absolutely nothing was given by mouth. Clear fluids were started

on the 3rd to 5th day, with the Ryle’s tube being blocked. The patients were carefully watched for signs of peritonitis. If they tolerated well, the nasogastric tube was removed and liquid diet was started. Majority of patients were discharged 2 to 3 weeks after admission, with advice to use HP kit (for 14 days), continue oral PPIs for 2 months, use multivitamins, have high protein diet and maintain good hydration. With strict abstinence from alcohol, smoking and spicy food. An upper GI Endoscopy was advised after 12 weeks.

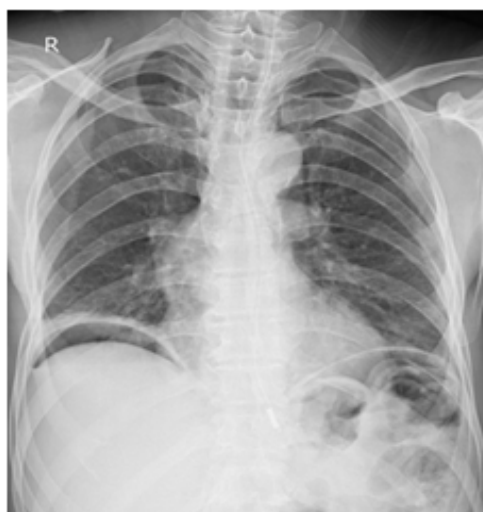


Fig. 2: Sealed off perforation with debris along with gas under the diaphragm



Fig. 1: Early perforation with only gas under the diaphragm

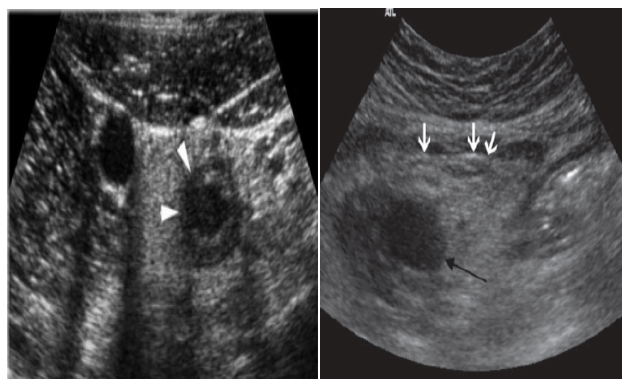
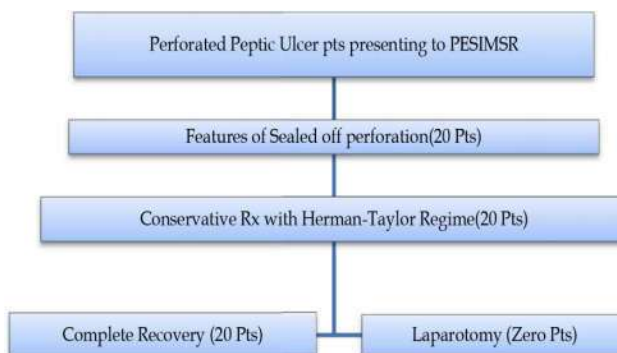


Fig. 3a: Omental fat sealing off the perforation. **3b:** Uneven thickening of the peritoneum

Treatment outline



Results

During the study period, we had 20 cases of sealed off perforated peptic ulcer cases. The clinical details of these cases are shown in the table.

Table 1:

Feature/ Characteristic	No. of Patients (n=20)
Male	14
Female	6
H/O Dyspepsia	16
Smokers/ tobacco chewers	12
Alcoholics	11
H/O NSAID or Steriod use	8
Medical illnesses(DM, HTN, BA, CAD)	12
Complications-	
Hypoproteinemia	6
Anemia	5
UTI	3
Mortality	None
Complete recovery	20

Discussion

Peptic ulcer disease remains the most common cause of Peptic ulcer perforation worldwide, (with an incidence of 2 to 10% in ulcer patients)

Despite dramatic improvements in peptic ulcer management in the last two decades (new potent anti-secretory drugs as well as Helicobacter pylori eradication), the frequency of perforated Peptic ulcer remains the same.

This may be due to an increase in prescription of NSAIDs or steroids.

With the advent of proton pump inhibitors (PPI) the surgery for perforated peptic ulcer has changed from perforation closure with definitive acid reduction surgeries to simple omental patch. The trend of minimal is better holds good.

Though there have been various studies showing successful non-operative management of perforated peptic ulcer, Conservative treatment has not gained wide spread acceptance as an alternative approach to surgery.

So, this study was done to re-assess the efficacy of conservative management in patients with sealed off peptic ulcer perforation and to prevent surgical morbidity and mortality..

Intravenous fluid is administered at a rate depending upon the degree of dehydration to maintain a urine output of at least 30 ml/h.

Improvement is indicated by decrease in the pulse rate, temperature, and abdominal tenderness, regaining of bowel movements and by an improvement in the general condition of the patient.

The majority, however, will dramatically improve within 48 to 72 hrs. Oral fluids may be started when all signs of peritonitis disappear and intestinal activity returns.

Normal diet is resumed within a few days.

The patient should ideally be started on HP kit.

Upper gastrointestinal endoscopy is performed 12 weeks later, where evidence of healed duodenal ulceration will be seen in the great majority of patients.

A decision is then made, depending on the individual circumstances, to stop medical treatment or to continue long-term maintenance with PPIs or H2 blockers.

Definitive ulcer surgery may then be reserved for patients who have frequent relapses of ulcer disease and other complications while receiving acid suppressive treatment.

Conclusion

By this study, We recommend managing sealed off Peptic ulcer perforations conservatively with Herman-Taylor regime consisting of NPO, RT drainage, IV Fluids, IV antibiotics (change as per flank aspirate culture), IV PPIs, bilateral flank drains (if necessary) and Parenteral nutrition.

Once allowed orally after few days, patients should be started on HP kit (for 14 days), continue oral PPIs for 2 months, multivitamins, high protein diet and good hydration. Thus the mortality, morbidity and monetary burden associated with surgical management of sealed off perforations can be eliminated.

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