

Outcome of Simple Closure with Omental Patch Repair in Pre-Pyloric and Duodenal Ulcer

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Abstract

Background: Peptic ulcer perforation is a serious and life threatening complication which affects 2-10% of peptic ulcer patients on average. The overall mortality of perforated peptic ulcer (PPU) is 10% ranging from 1.3-20%.

Aim of Study: The aim of the present study was to determine efficiency of omental patch repair after studying the outcome of this method in perforated pre-pyloric gastric ulcer and duodenal ulcer in emergency surgery. We included a total of 40 patients diagnosed with PPU.

Patients and Methods: A retrospective cohort study included 40 cases diagnosed with PPU. Patients underwent emergency surgery for simple closure with omental patch repair at general Surgery Department, Damietta General Hospital, Damietta, Egypt. Full history taking, complete clinical examination, Radiological and Laboratory investigations were performed. Good peritoneal toilet and drainage was performed, and the perforation was closed with sutures, and then reinforced by an omental patch.

Results: The mean age of the included patients was 38.78 years. Hypertension was the commonest comorbidity (12.5%). Smokers represented 60% of the included cases, as 24 patients were smokers. History of NSAID intake was reported by 15 patients (37.5%), while previous PUD treatment was reported by 9 patients (22.5%). Abdominal pain was reported by all patients (100%), followed by fever (75%), distension (75%), vomiting (72.5%), constipation (37.5%), and shock (25%). Clinical examination revealed guarding and rigidity in all patients, while rebound tenderness was elicited in 95% of cases. Radiographic examination revealed air under diaphragm in 36 patients (90%). Duodenal perforations were detected in 25 patients (62.5%) while the remaining cases had gastric (prepyloric) perforation. The duration of operation ranged between 52 and 120 minutes (mean=59 minutes). After operation, twelve patients were admitted to the ICU (30%). Surgical site infection was the most common complication, as it was encountered in 13 patients (32.5%), followed by chest infection (27.5%).

Conclusion: Open omental patch repair of gastroduodenal perforations appears to be safe, efficacious and associated with good post-operative outcomes.

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Introduction

PEPTIC ulcer disease (PUD) affects 4 million people worldwide annually. The incidence of PUD has been estimated at around 1.5% to 3%. It is a common life threatening surgical emergency. Discovery of *H. pylori* changed the concept of the management of peptic ulcer. Now-a-days reduction in gastric acid production with proton pump inhibitors along with eradication of *H. pylori* is recommended [1].

Perforated peptic ulcer (PPU) is a serious complication of PUD and patients with PPU often present with acute abdomen that carries high risk for morbidity and mortality. The lifetime prevalence of perforation in patients with PUD is about 5%. PPU carries a mortality ranging from 1.3% to 20%. Thirty-day mortality rate reaching 20% and 90-days mortality rate of up to 30% have been reported. In this review we have summarized the current evidence on PPU to update studies [3].

Although previous studies have indicated that seasonal variation did influence the incidence of PPU, other studies have failed to prove such a pattern. In developing world, patients tend to be young male smokers while in developed countries; patients tend to be elderly with multiple comorbidities and associated use of non-steroidal anti-inflammatory drugs (NSAIDs) or steroid. NSAIDs, *Helicobacter pylori* (*H. pylori*), physiological stress, smoking, corticosteroids and previous history of PUD are risks factors for PPU. In the presence of risk factors, recurrence of ulcer is common despite initial successful treatment. A systematic review of 93 studies has shown that the average long-term recurrence of perforation was 12.2% [3].

Over the last two decades there have been a number of advances in the management of perforated duodenal ulcer that have suggested 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 [4].

Prepyloric and duodenal ulcers have some common characteristics: Gastric acid secretion is increased and there is an association with blood group O. Many, therefore, have considered prepyloric ulcers to be a variety of duodenal ulcer disease [5].

Duodenal perforation can either be free or contained. Free perforation arises when bowel contents leak freely into the abdominal cavity and causing diffuse peritonitis. Contained perforation occurs when the ulcer creates a full-thickness hole, but free leakage is prevented by contiguous organs such as the pancreas that wall off the area. Typically, patients with duodenal ulcers have nocturnal abdominal pain or feel hungry. If perforation occurs, it usually can cause sudden onset of severe pain in the upper abdomen [6].

Primary repair of duodenal perforations with the omental patch technique has re-emerged as the mainstay of treatment of this widely-prevalent condition, especially in our country. Omental patch repair of duodenal ulcer perforation is both simpler and more effective than definitive ulcer surgery in the emergency situation. Perforations larger than 3cm have also been reported to be successfully repaired with this technique. All these considerations have led to the revival of this technique [1].

The current study was conducted to determine the outcome of this method in perforated prepyloric GU and DU regarding post-operative complications and recurrence.

Patients and Methods

This is a retrospective cohort study included 40 cases diagnosed with PPU. Patients underwent emergency surgery for simple closure with omental patch repair at General Surgery Department, Damietta General Hospital, Damietta from April 2019 – May 2020.

Inclusion criteria:

All cases with diagnosis of small (less than 3cm) perforated pre-pyloric gastric ulcer and duodenal ulcer within 24 hours. Age between 15 to 60 years and both genders included. Patients underwent emergency surgery for simple closure with omental patch repair.

Exclusion criteria:

Giant gastric & duodenal ulcer (>30mm) and complicated gastric with malignancy.

Ethical consideration:

The study gained approval from the local ethical committee and Institutional Review Board of Ain Shams University. Patient confidentiality was ensured and the collected data was used only for scientific purposes. This study has been carried out in accordance with the code of Ethics of the World Medical Association (Declaration of Helsinki) for studies involving humans.

Patient evaluation:

Primarily, as in any emergency situation, a rapid ABC (airway, breathing, and circulation) evaluation should be done. All patients were subjected to complete history taking, thorough physical examination and routine preoperative laboratory investigations. In addition, plain radiograph showing diaphragmatic copula was done for all cases, while abdominal CT was ordered for doubtful cases. All cases received adequate fluid resuscitation prior to surgery.

Preoperative preparation:

A wide IV line was established, and aggressive fluid resuscitation with ringer and saline solutions was performed before surgery. Any electrolyte imbalance was corrected. Nasogastric tube and urinary catheter were inserted for all patients. IV broad spectrum antibiotic (ceftriaxone 1gm), IV metronidazole 500mg/50ml and IV pantoprazole 40mg were commenced for all cases. In unstable patients with perforated peptic ulcer, we tried restoring physiological parameters with a mean arterial pressure \geq 65mmHg, a urine output \geq 0.5ml/kg/h, and a lactate normalization.

The surgical procedure:

The patient was placed in a supine position. Abdomen was explored through an upper midline incision to allow for exploration of entire abdomen if gastric or duodenal perforation is not the cause of peritonitis. Gradual aspiration of the bilious or turbid contents detected in the abdominal wall. Edges of ulcer were debrided if necessary, and open biopsy was taken from all patients with gastric perforation to exclude malignancy risk. The defect was closed primarily in a transverse orientation, usually in a single layer using 2.0 or 3.0 vicrylsutures. A vascularized pedicle of omentum was brought up to cover the repair. The pedicle was secured in place with the long tails of the ulcer

closure sutures or separate tacking sutures of 3-0 silk around the margins of the primary closure. Other surgeons preferred to anchor an omental pedicle with a single suture beyond the ulcer. The previously placed sutures down like an "archway" over the length of the pedicle thereby securing the omentum firmly within the edges of the perforation.



Fig. (1A): Pre: Perforated gastric ulcer on the lesser curvature of the stomach.

Following repair of the perforation, a thorough irrigation of the abdomen (6-10L) with attention paid at the right and left subphrenic spaces and pelvis was done. Three drains were inserted in all patients, the right at Morrison pouch, upper left at pelvis and lower left at the perisplenic space. Finally, the abdominal wall was closed in layers.



Fig. (1B): Post: Pedicled omental patch repair to the perforation.



Fig. (2A): Pre: Perforated duodenal ulcer.



Fig. (2B): Post: Pedicled omental patch repair to the perforation.

Post-operative care:

Cases presented with shock or other showed intraoperative hemodynamic instability were transferred to the ICU. Other cases were transferred to the recovery room then to the internal ward. All patients were kept NPO for the first two days following surgery. Adequate IV hydration was maintained and urine output was frequently monitored. IV broad spectrum antibiotic, metronidazole 500mg, and pantoprazole 40mg were commenced.

Frequent assessment of the clinical condition of all cases was ensured, and laboratory parameters were performed after operation including CBC, and electrolytes. Other laboratory parameters were ordered when indicated.

Any post-operative complications were noted and recorded, mainly leakage, chest infection and surgical site infection. The diagnosis of peritonitis due to omental patch leakage was based on clinical features, routine laboratory tests, and radiological

findings (i.e, plain abdominal X-ray and abdominal CT scan in all cases, if required). However, the definitive diagnosis of perforated peptic ulcer and omental patch leakage was obtained at surgery. Superficial surgical site infection was defined as an infection of the surgical site that occurred within 30 days after the operation and involved the skin or subcutaneous tissue [7].

For the initial three days, analgesia was maintained via intravenous nalbuphine 10mg that was repeated every 6 hours. On subsequent days, analgesia was performed with paracetamol 500 IV every 6 hours.

Oral fluids were started on the 4th or 5th POD, if the patient passed flatus or when patient had good intestinal sounds. Patient was discharged from hospital when fulfilling the following criteria: Tolerance of sufficient liquids such that intravenous fluids are no longer required, fever less than 99.5 F for the 24 hours prior to discharge, or adequate pain control (pain scores less than 4) with oral medications [8].

Follow-up:

After discharge, all the patients were put on triple regime consisting of Amoxicillin (500mg TID), Metronidazole (400mg TID) and Omeprazole (20mg BID), all given orally for 14 days to eradicate H. Pylori. Regular follow-up visits were scheduled at 1, 2 and 4 weeks, then at 2,3 and 6 months following surgery. During these visits, all patients were clinically assessed. The appropriate laboratory or radiological investigation was ordered when indicated, and according to the patient complaint. Any complicates were noted and recorded.

Statistical analysis:

Data analyzed using Microsoft Excel software. Data were then imported into Statistical Package for the Social Sciences (SPSS version 26.0) software for analysis. According to the type of data qualitative represent as number and percentage, quantitative continues group represent by mean \pm SD. Differences between quantitative independent multiple by ANOVA or Kruskal Wallis. *p*-value was set at <0.05 for significant results & <0.001 for high significant result.

Results

The present study showed that mean age of the included patients was 38.78 years (range, 18-56). We included 32 male patients (80%), whereas the remaining patients were females. As regard systemic comorbidities, hypertension, diabetes and

ischemic heart disease were present in 12.5%, 10% and 2.5% of patients in the current study, respectively (Table 1). Smokers represented 60% of the included cases, as 24 patients were smokers. History of NSAID intake was reported by 15 patients (37.5%), while previous PUD treatment was reported by 9 patients (22.5%). Previous steroid therapy was only reported in one patient (2.5%) (Table 2).

The duration of symptoms ranged between 12 and 24 hours (mean=18.93 hours). Abdominal pain was reported by all patients (100%), followed by fever (75%), distension (75%), vomiting (72.5%), constipation (37.5%), and shock (25%) (Table 3).

Table (1): Basic demographic data of the included patients.

Variable	Data (N = 40)
Age (years) Mean \pm SD	38.78 \pm 12.25
Median (range)	42 (18-56)
<i>Gender:</i>	
- Male	32 (80%)
- Female	8 (20%)
<i>Systemic comorbidities:</i>	
- Diabetes mellitus	4 (10%)
- Hypertension	5 (12.5%)
- Ischemic heart disease	1 (2.5%)

Table (2): Risk factor for peptic ulcer disease in the included patients.

Variable	Data (N = 40)
Smoking	24 (60%)
NSAID use	15 (37.5%)
Previous treatment for PUD	9 (22.5%)
Steroid therapy	1 (2.5%)

Table (3): Clinical presentation of the included patients.

Variable	Data (N = 40)
Duration of symptoms (Hours) Mean \pm SD	18.93 \pm 3.3 8
Median (range)	19 (12-24)
Abdominal pain	40 (100%)
Vomiting	29 (72.5%)
Fever	30 (75%)
Constipation	15 (37.5%)
Distension	30 (75%)
Shock at presentation	10 (25%)

Clinical examination revealed guarding and rigidity in all patients, while rebound tenderness was elicited in 95% of cases. In addition, abdominal distension and masked liver dullness was detected in 75% of patients. By auscultation, no bowel sounds were detected in 87.5% of patients. Radiographic examination revealed air under diaphragm in 36 patients (90%) (Fig. 1).

All preoperative laboratory data are shown in the following table. Total leucocytic count range between 9.9 and 21.6 x 10⁹/L (mean=15.24), while serum creatinine ranged between 1.1 and 2.1mg/dl (Table 4).

Table (4): Preoperative laboratory parameters of the included patients.

Variable	Data (N = 40)
Hemoglobin (gm/dl) Mean ± SD	12.15±0.99
Median (range)	11.95 (10.3-13.8)
WBCs (x 10 ⁹ /L) Mean ± SD	15.24±3.5
Median (range)	14.15 (9.9-21.6)
Platelet (10 ⁹ /L) Mean ± SD	319.13±48.54
Median (range)	326 (234-393)
Creatinine (mg/dl) Mean ± SD	1.47±0.32
Median (range)	1.3 (1.1-2.1)
Na (mmol/l) Mean ± SD	144.81±4.38
Median (range)	144.65 (136.7-152)
K (mmol/l) Mean ± SD	3.66±0.35
Median (range)	3.5 (3.3-4.5)
Albumin (gm/dl) Mean ± SD	4.38±0.47
Median (range)	4.45 (3.5-5.1)
SGOT (IU/l) Mean ± SD	32.05±7.72
Median (range)	34 (19-44)
SGPT (IU/l) Mean ± SD	37.38±8.78
Median (range)	36 (24-50)
Bilirubin (mg/dl) Mean ± SD	0.94±0.21
Median (range)	0.9 (0.6-1.4)
INR Mean ± SD	1.1±0.07
Median (range)	1.1 (1-1.2)
Random blood sugar (mg/dl) Mean ± SD	157.1±25.37
Median (range)	159 (114-197)

On surgical exploration, duodenal perforations were detected in 25 patients (62.5%) while the remaining cases had gastric (prepyloric) perforation. The mean size of perforation was 16.93mm (range, 4-30mm). The detected intraabdominal free fluid was bilious in nature in 47.5% of patients, while the remaining patients had purulent free fluid. The amount of that fluid ranged between 520 and 3900 ml (mean=1463.5ml). The duration of operation ranged between 52 and 120 minutes (mean=59 minutes) (Table 5).

The duration of hospitalization ranged between 5 and 8 days (mean=6.4 days). Surgical site infection was the most common complication, as it was encountered in 13 patients (32.5%), followed by chest infection (27.5%). Ileus was detected in 7.5% of patients, while leakage was encountered only in one case, which was managed by reoperation.

During the follow-up period, one patient developed incisional hernia, and no patients developed ulcer recurrence or required reoperations. No mortality was encountered in the current study.

Table (5): Intraoperative data of the included patients.

Variable	Data (N = 40)
<i>Site of perforation:</i>	
- Duodenal	25 (62.5%)
- Prepyloric	15 (37.5%)
Perforation size (mm) Mean ± SD	16.93±8.23
Median (range)	15 (4-30)
<i>Type of intraabdominal fluid:</i>	
- Bilious	19 (47.5%)
- Purulent	21 (52.5%)
Amount of intraabdominal fluid (ml) Mean ± SD	1463.5±1021.59
Median (range)	1000 (520-3900)
Duration of operation (minutes) Mean ± SD	71.93±22.68
Median (range)	59 (52-120)

Discussion

Peptic Ulcer Disease (PUD) is associated with potentially life-threatening complications, including bleeding, perforation, and obstruction. Perforation is the second most frequent complication after bleeding [9]. Perforation due to peptic ulcer is a serious complication that affects an average of 2-10% of peptic ulcer patients and having an overall mortality of 10%, although some authors report ranges between 1.3 and 20%. Being a life-threatening complication of PUD, it needs special attention with prompt resuscitation and appropriate surgical management if morbidity and mortality are to be avoided [10]. The aim of treatment is surgery after active resuscitation [11].

The current study was conducted to determine efficiency of omental patch repair after studying the outcome of this method in perforated prepyloric gastric ulcer and duodenal ulcer in emergency surgery. A total of 40 cases were included, and they had a median age of 42 years (range, 18-56). In line with our findings, Chalya et al., reported that the peak incidence was in the 4th decade (31-40 years) [12]. This is near to our findings. Another study reported that the mean age of the included cases was 46 years, and it ranged between 23 and 90 years [13]. Other authors reported that most of their cases (67%) had an age range between 31 and 50 years. The age of all patients ranged between 19 and 70 years [14].

In the current study, we included 32 male patients (80%), whereas the remaining patients were females. Another study confirmed higher prevalence of male gender in a study handling the same pathology. Out of the included 58 patients, fifty-two were males with male to female ratio of almost 10:1 [15]. Karydakis et al., [13] confirmed the previous findings, as authors included 145 males in addition to 53 females. Males represented 73.2% of the included cases.

According to a previous report, male predominance is explained by the presence of parietal cells in the stomach in greater numbers than in women. These cells secrete the primary compound which has a very high concentration of chloridic acid. It is also attributed psychological factors and the prevalence of smoking in the male population [16].

In our study, smokers represented 60% of the included cases, as 24 patients were smokers. Another study reported that smokers represented 39.2% of patients diagnosed with PPU [17]. Smoking inhibits pancreatic bicarbonate secretion, resulting in increased acidity in the duodenal bulb. It also inhibits the healing of duodenal ulcers [18].

Our results showed that NSAID intake was reported by 15 cases (37.5%). NSAID inhibit prostaglandin synthesis so further reducing gastric mucosal blood flow (19). In the study conducted by Chadya et al., nine (10.7%) patients reported history of recent ingestion of NSAIDs for joint and back pains [12].

Elnagib et al., [15] reported lower prevalence of NSAID intake, as it was documented only in three out of 58 patients (5.17%). This was because of the predominance of young age in this study that was not expected to use NSAIDs as is the case in the elderly age group.

In the current study, previous PUD treatment was reported by 9 patients (22.5%). Nuhu et al., in Nigeria who reported that 71% of cases had previous history of peptic ulcer disease, which was higher than our findings [18]. Another study reported that 31 % of the included patients had previous history for PUD, which is near to our findings [12].

Other studies reported that more than sixty percent of patients had no past history suggestive of peptic ulcer disease and those with a known history of PUD were not on regular treatment [15]. The previous findings support the fact that perforation may be the first presentation of PUD, as it is not necessary for the patient to report previous PUD symptoms or treatment.

In our study, duration of symptoms ranged between 12 and 24 hours (mean= 18.93 hours). It has been reported that the interval between perforation and initiation of treatment is a better predictor of outcome [20]. The relatively later presentation in our study may be attributed to lack of accessibility to health care facilities and lack of awareness of the disease. Hospital treatment is expensive and the patients may seek care only when the pain is unbearable. Patients may take medications in the pre-hospital period with hope that the symptom will abate. It is also possible that some clinicians managing the patients initially may not have considered perforation as a possible diagnosis.

Multiple studies reported that most cases presented within 24 hours of symptom initiation [17]. In the study conducted by Khan et al., only four patients reported within four hours and 14 (39%) between 04-24 hours, twelve (33%) patients reported between 24-48 hours, six (17%) patients reported after 48 hours [14]. Other authors reported significantly longer duration of symptoms, as it ranged between one and 12 days (mean=6.5 days) [12].

In the current study, abdominal pain was reported by all patients (100%), followed by fever (75%), distension (75%), vomiting (72.5%), constipation (37.5%), and shock (25%). In another study conducted by Chalya et al., the commonest presenting symptoms were sudden onset of severe epigastric pain in 82 (97.6%), abdominal distention in 64 (76.2%) and vomiting in 31 (36.9%) patients [12]. Khan and Gupta reported that abdominal pain was present in all patients (100%), distension (81.8%), constipation (81.8%) and vomiting (67.56%) [1].

In our study, clinical examination revealed guarding and rigidity in all patients, while rebound tenderness was elicited in 95% of cases. In addition, abdominal distension and masked liver dullness was detected in 75% of patients. By auscultation, no bowel sounds were detected in 87.5% of patients.

In another study handling the same perspective, abdominal tenderness, rigidity and guarding were elicited in all patients. Additionally, masked liver dullness, distension and absent bowel sounds were present in 87.83, 81.08 and 80.40% of the included participants [1].

Our findings showed that air under diaphragm was detected in 36 patients (90%). Elnagib and his associates reported that plain radiograph was able to detect air under diaphragm in 92% of cases, and there was no significant correlation between perforation size and this radiographic finding [15]. In

another series, it revealed a pneumoperitoneum in 87.03% of cases [16].

In the current study, duodenal perforations were detected in 25 patients (62.5%) while the remaining cases had gastric (prepyloric) perforation.

Karydakos and his colleagues reported that duodenal bulb perforation was encountered in 127 patients (64.14%), while prepyloric perforation was detected in the remaining 71 patients [13]. Another study also reported higher incidence of duodenal perforations in PUD, compared to the gastric ones. Out of the 56 patients treated surgically, 53 patients had duodenal perforation whereas gastric perforation was detected only in three cases [15]. Both of the previous studies confirmed our findings regarding ulcer site.

In another study the perforation was located respectively in 68.52% on the gastric antrum and in 31.48% on the duodenum [16]. In the series reported by Tran and Quandalle the location of the perforation on the gastric antrum was 92% and that of the duodenum 8% of cases [21]. This is in contrast with our findings.

Our findings revealed that the mean size of perforation was 16.93 mm (range, 4-30mm). Dongo et al., reported that The sizes of perforation ranged in <1cm, 51 (49%); between 1 and 2cm, 39 (37.5%); and >2cm, 14 (13.5%) [11].

Ates et al., reported the included perforations had a mean size of 6mm [22]. Another study reported that the median size of the ulcer was 5.4mm, and ranged between 2 and 20mm [12].

In our study, all cases underwent suturing of the perforated ulcer and then reinforcement with omental pedicle. In another study, the majority of patients, 70 (83.3%) had omental patch repair of the perforations with either a pedicled omental patch or a free graft of omentum. Those with sealed perforations had peritoneal lavage with warm saline and mass closure of the abdomen. One patient had truncal vagotomy and Roux-en-Y gastrojejunostomy in addition to simple closure. One patient who had a large ulcer, which penetrated to the pancreas and caused pyloric obstruction, underwent subtotal gastrectomy [12].

Dongo and his associates reported that the preferred method of repair was Graham's omentopexy in 72 (69.2%) patients. The rest had simple closure of the edges [11]. In our study, the duration of operation ranged between 52 and 120 minutes (mean=59 minutes).

Lee and his colleagues reported that operative time had a median value of 75 minutes (range, 35-175 minutes) for the open approach [23]. Another study reported that the operative time for the same repair had a mean duration of 55.83 minutes (range, 35-72) [22]. One should find some differences between different studies regarding operative time. This shall depend on surgical expertise, time of presentation and the availability of healthcare facilities.

We encountered only one case with leakage after omental repair (2.5%), which was managed by reoperation. Another study reported that leakage was encountered in seven of 422 patients managed by omental patch repair with an incidence rate of 4.2% [24]. Dongo et al., reported that leakage was encountered in 4 cases (3.85%) of the included 104 patients, and all of them underwent reoperation [11].

Another study reported a higher rate, as leakage was encountered in two out of the included 18 cases (11.11%) [14]. Furthermore, Chalya and his associates reported that reperforation occurred in 4 patients (16%), while intraabdominal abscess was detected in 5 patients (20%) [12].

Our study showed that the duration of hospitalization ranged between 5 and 8 days (mean=6.4 days). Other authors reported that hospitalization period ranged between three and six days [13]. This is shorter period compared to ours, and this could be explained by the fact that the previous patients were managed by laparoscopy, which is known to have faster recovery and shorter hospitalization compared to the open approach [25].

Surgical site infection was the commonest complication in the current study, as it was encountered in 13 patients (32.5%). Another study reported that surgical site infections were encountered in 12 patients (48%) [12]. Other reported that the same complication was detected in 23 patients (15.54%) [1].

In our study, chest infection was the second most common complication after wound infection. It was encountered in 11 patients (27.5%). Another study reported that chest infection was encountered in 15 out of the included 148 patients (10.13%) [1]. Our higher incidence could be explained by the higher prevalence of smoking in our series, which have a significant negative impact on perioperative outcomes, especially respiratory ones.

In the current study, ileus was encountered in only three patients (7.5%). Lee et al., reported that

ileus was detected only in two cases after open repair of PPU (1.8%) [23]. We detected only one patient with incisional hernia during the scheduled follow up period. Another study reported that the same complication was encountered in 2 patients (8%) [12].

No mortality was encountered in the current study. The overall mortality after that pathology varies between 4 and 30% [26]. Another study reported that mortality was encountered in only 4 patients (2.7%) [1]. In the study conducted by Elnagib et al., death was related to late presentation as six out of the seven patients who died presented more than 24 hours indicating that late presentation increased the risk of postoperative mortality [15].

This study has some limitations; first of all, it is a single center study. Also, the included patient sample was small. The lack of endoscopic and long-term follow up are other drawbacks. Therefore, more studies including more cases from different surgical centers should be included in the near future.

Conclusion:

Open omental patch repair of gastroduodenal perforations appears to be safe, efficacious and associated with good post-operative outcomes.

No Conflict of interest.

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نتائج الإغلاق البسيط بإصلاح الرقعة التريية في قرحة ما قبل البواب والاثنى عشر: دراسة استيعادية

الخلفية: يصيب مرض القرحة الهضمية ٤ ملايين شخص حول العالم سنوياً. تم تقدير حدوث PUD بحوالي ١.٥٪ إلى ٣٪. إنها حالة طوارئ جراحية شائعة تهدد الحياة. أدى اكتشاف الحلزونية البوابية (١٩٨٥) إلى تغيير مفهوم إدارة القرحة الهضمية. يوصى بتقليل إنتاج حمض المعدة الآن كل يوم باستخدام مثبطات مضخة البروتون جنباً إلى جنب مع القضاء على بكتيريا الملوية البوابية.

الهدف: هو تحديد كفاءة إصلاح الرقعة التريية بعد دراسة نتائج هذه الطريقة في القرحة المعدية المثقوبة قبل البواب وقرحة الاثنى عشر في الجراحة الطارئة.

الحالات والطرق: اشتملت الدراسة على ٤٠ مريضاً تم تضمينهم من الطوارئ في مستشفى دمياط العام. تعرضت كل الحالات المشمولة إلى أخذ التاريخ المرضي والفحص الإكلينيكي الشامل بالإضافة إلى التحقيقات المخبرية والاشعاع اللازمة.

النتائج: أظهرت النتائج الرئيسية للدراسة ما يلي: كان متوسط عمر المرضى المشمولين ٣٨.٧٨ سنة. شملنا ٣٢ مريضاً ذكور (٨٠٪) بينما كان باقي المرضى من الإناث. كان ارتفاع ضغط الدم أكثر الأمراض المصاحبة شيوعاً (١٢.٥٪)، يليه مرض السكري و أمراض القلب الإقفارية. شكل المدخنون ٦٠٪ من الحالات المشمولة حيث كان ٢٤ مريضاً مدخنين. تم الإبلاغ عن تاريخ تناول مضادات الالتهاب غير الستيروئيدية قبل ١٥ مريضاً (٣٧.٥٪)، بينما تم الإبلاغ عن علاج سابق لمضادات الالتهاب غير الستيروئيدية من قبل ٩ مرضى (٢٢.٥٪). تم الكشف عن قلة حركية الأمعاء في ٧.٥٪ من المرضى، بينما تم اكتشاف التسرب في حالة واحدة فقط تمت معالجتها عن طريق إعادة الجراحة. أصيب أحد المرضى بفتق جراحي، ولم يصاب أى مريض بتكرار القرحة أو إعادة الجراحة المطلوبة. لم تتم مصادفة وفيات في هذه الدراسة.

الاستنتاج: بناءً على النتائج السابقة، يبدو أن الإصلاح المفتوح للرقعة المثقوبة للقول المعدية الاثنى عشرية آمن وفعال ومرتبطة بنتائج جيدة بعد الجراحة.