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Article

**TO KNOW THE CONSERVATIVE AND SURGICAL
TREATMENT OUTCOMES OF PEPTIC ULCERS**¹Dr Aamir Saeed, ²Dr Rashid Ashraf, ³Dr Aeman Shafique^{1,2}Services Institute of Medical Sciences, University of Health Sciences LahoreRashidashraf6153@gmail.com³Amna Inayat Medical College, University of Health Sciences Lahore,**Abstract:**

Background and objectives: Perforation is an important life-threatening complication of peptic ulcer. The traditional treatment is surgery for this perforation. The surgery results are outstanding, but have high mortality and morbidity. In 1935, Wangenstein and in 1946 Taylor showed that a non-surgical treatment was effective and safe in particular patients because omentum and nearby organs cover the peptic perforations were usually self-closed. We conducted a prospective study to determine the outcomes and evaluate the probability of surgical and non-surgical treatment of perforated peptic ulcers.

Study Design: A prospective case series study.

Place and Duration: In the Surgical Unit II of Services Hospital Lahore for one-year duration from March 2018 to March 2019.

Methods: We investigated fifty clinical diagnosed perforated peptic ulcer cases. The criteria of inclusion were stable hemodynamic status, age -20-70 years, and less than 12 hours before diagnosed clinically of perforation by X-ray test and / or CT of a pneumoperitoneum. Conservative treatment entailed of nothing given with the mouth, intravenous fluids, nasogastric suction, intravenous omeprazole and intravenous antibiotics.

Results: Forty-one (82%) of the fifty patients responded well, 9 of them did not improve and required emergency laparotomy. Complications developed in 11 of 41 patients in the successful group, which were successfully managed and did not extend stay in hospital. Conservative treatment did not significantly rise morbidity.

Conclusion: We concluded that for perforated peptic ulcer conservative treatment can be safe in particular patients as long as appropriate admission criteria and guidelines are followed.

Keywords: Perforation, peptic ulcer, intravenous fluids, intravenous antibiotics, nasogastric suction.

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INTRODUCTION:

The most usual the gastrointestinal tract pathology is peptic ulcer. The peptic ulcer disease common complications are obstruction, perforation and bleeding¹⁻². The most life-threatening impediment of peptic ulcer is perforation³. The gastric, antral and duodenum represent 20% and 60% of peptic ulcers and perforations were noted among 20%, correspondingly. The surgical repair is the current perforated peptic ulcer treatment⁴. Though the surgery results are outstanding but have been related with mortality and morbidity. The non-surgical management plan was given in 1935 by Wangenstein proved to be effective and safe in particular subjects⁵. It is acknowledged that perforated ulcers usually close instinctively by the adhesion of the adjacent organs and omentum⁶. In 1946, Taylor described the first conservative treatments for perforated peptic ulcer⁷. However, the general situation suggested to be good.

We conducted a prospective analysis to determine the outcome and evaluate the conservative and surgical treatment feasibility for perforated peptic ulcer.

MATERIALS AND METHODS:

This prospective case series study was held in the Surgical Unit II of Services Hospital Lahore for one-year duration from March 2018 to March 2019. The total number of cases analysed were fifty. In [Table / Figure-1], Clinical details are given. Fifty patients endured routine serum electrolytes, hematologic examinations, detailed clinical examination, upright abdominal x-ray and abdominal USG. In suspected cases, an oral contrast-enhanced CT scan was performed. Selection criteria consisted of stable

hemodynamic status, -20-70 years of age and in less than 12 hours' time when perforation clinical diagnosis was made with CT, X-ray and pneumoperitoneum evidence. Conservative treatment included intravenous antibiotics (metronidazole and cefotaxime), intravenous fluids and intravenous omeprazole. By constant suction and irrigation, Ryle tube 18 number was used to empty the stomach. It is very important that the pipe is fully inserted into the larger distal curvature. A precise input-output graph, two-hour pulse, blood pressure (BP) and temperature were recorded. Abdominal bloating, tenderness and bowel sounds were frequently examined. Absolutely nothing was administered orally for 2-3 days. During the initial four to five days, the high-ranking consultant examined the cases two to three times a day. If the patient did not recover or worsened after 12 hours of treatment (increased pulse, fever, bloating or pain), conservative treatment was discontinued and laparotomy was performed. Clear liquids started with the blockage of nasogastric tube after day 4 to day 5. Patients were observed carefully for symptoms of peritonitis. If they were well tolerated, the NG tube was removed and fluid feeding initiated. Most patients were discharged with anti-ulcer and anti-H Pylori treatment after 10-15 days. Upper GIT endoscopy was recommended one month later.

RESULTS:

There were 113 perforated peptic ulcers cases selected for the study. 63 cases were excluded (22 cases did not want to receive non-surgical treatment and the 41 remaining patients did not meet our criteria of inclusion). In [Tables / Figures 1 and 2]; all 50 cases clinical details are shown.

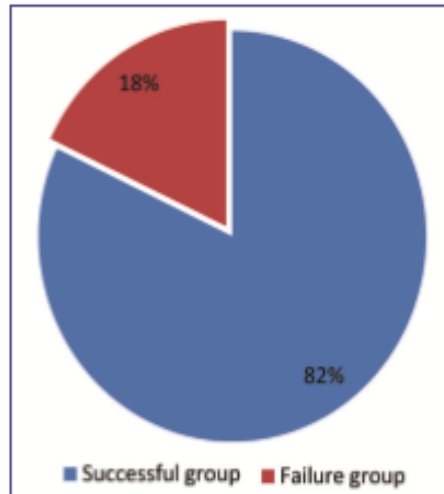
Features/characteristics:	No of patients (N=50)
Male	43
Female	7
Mean age in years (range)	45 (20-70)
Smoker/tobacco use	34
Alcoholic	26
NSAID/ Steroid	19
H/O Dyspepsia:	33
On H2 blocker at the time of perforation	8
On Proton pump inhibitor at the time of perforation	5
Associated medical illness:	
Cardiovascular diseases	6
DM	11
Chronic Brochitis	5
Cirrhosis	1
[Table/Fig-1]: Details about the cases	

Of the fifty cases, Forty-one (82%) of the fifty patients responded well, 9 of them did not improve and required emergency laparotomy.

Duration in hours (range)	No of patients (N=50)
<4	14
4-8	22
8-12	14

[Table/Fig-2]: Duration of perforation at admission

Therefore, in our study, the non-surgical treatment success rate of perforated peptic ulcer was eighty two percent [Table / Figure-3].



[Table/Fig-3]: Results of the non-operative treatment

All of the 9 patients who underwent laparotomy after the 12-hour test had open perforation. The two patients have benign gastric perforation and duodenal perforation was in 7 cases. There was no substantial difference between the unsuccessful group and the successful group in terms of age, pre-presentation perforation time and length of hospital stay [Table / Figure-4].

Features	Failed conservative treatment (N=9)	Successful conservative treatment (N=41)
Mean age (years)	41	44
Mean duration of perforation (hours)	7	8
Mean hospital stay (days)	9	10
Complications	2	11
Mortality	0	0
Re-perforation	0	0

[Table/Fig-4]: Features of failed group & successful group

Forty one of the fifty subjects reacted well to the conservative non-operative treatment, while the residual nine cases failed to recover and emergency laparotomy was needed in them. [Table / Figure-5].

Complication	No of patients (Percentage)
1) Successful group (N=41):	
Peritoneal Abscess	4 (10%)
Respiratory tract infection	5 (12%)
Prolonged Paralytic ileus (lasted 5 -6 days)	2(5%)
2) Failed group (N=9):	
Surgical site infection	2(22%)

[Table/Fig-5]: Complications in successful & failed group

Four peritoneal abscess cases were drained successfully by USG guided percutaneous needle aspiration and resolved without any complications. Other problems were managed medically and did not lengthen stay in hospital.

Nine of 41 cases in the successful group did not appear for follow-up. The lasting thirty two subjects were followed for approximately one year. The anti-ulcer treatment was given to all 32 cases. The subjects who were positive for H.pylori infection given anti-H pylori treatment and that were 25 cases. For peptic ulcer; no one needed definitive surgical intervention. Twenty-six of 32 patients underwent superior GIT endoscopy after 30 days of perforation [Table / Figure 6], whereas the lasting 6 patients don't want to undergo endoscopy.

Three out of 9 patients in the failed group did not come for follow-up. The six remaining patients done with endoscopy and anti-H. pylori treatment was also given [Table / Figure-6].

DISCUSSION:

The most life-threatening impediment of peptic ulcer is perforation. Till now, for perforation surgical closure is the undisputed preferred treatment⁸. Now, for perforated peptic ulcer conservative non-surgical treatment has attracted much consideration. Redwood recorded the first report of perforated peptic ulcer recovery in 1870 without surgical treatment⁹⁻¹⁰. In 1935, Wangenstein reported that ulcers could be sealed and that seven cases were managed conservatively. Taylor in 1946 approved this thought and successfully treated twenty-eight patients conservatively¹¹. Songne et al in 2004 stated that above half of the perforated peptic ulcers patients retorted to conservative treatment without operation¹². The reason behind conservative management is:

- Peritonitis is no longer the cause of death. Because with the help of our new developments, the peritoneum usually located easily absorbs contaminants.
- In 1 perforation of gastro duodenum, for twelve hours; the peritoneal cavity remains sterile usually because the in the upper GIT bacterial load is low.

- After the opening of the peritoneal cavity for surgical management of perforated peptic ulcers, it is observed that the perforation is already closed by the omental plug and the lower surface of the liver. Concern about peritoneal silage has led surgeons to consider that it is significant to empty the peritoneal cavity carefully during the operation and wash with a large amount of normal saline. However, the real benefit of this procedure in surgery is uncertain. Rosoff stated that only 3 out of 109 cases treated without surgery had intra-abdominal abscess¹³. While there is concern about the release of ulcers, this is a very unusual fact. In studies by Bern and Rosoff, this occurred only in 2 of 109 patients treated without surgery¹⁴. One of the main concerns about conservative management is the risk of misdiagnosis. However, as Taylor has shown, periodic reassessment will make misdiagnosis faster and conservative treatment may be suspended. Taylor did not report the serious consequences of a short delay in diagnosis¹⁵. Irvin identified risk factors including more than above 70years age, steroids or non-steroidal anti-inflammatory drugs and concomitant medical diseases.

CONCLUSION:

We conclude that for perforated peptic ulcers conservative treatment is safe and effective alternative to surgery in certain cases as long as strict adherence criteria and guidelines are followed.

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