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Research Article

TO STUDY PREVALENCE OF PERFORATED PEPTIC ULCER IN STOMACH AND DUODENUM ALONG WITH CLINICAL SUGGESTION AND MANAGEMENT

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ABSTRACT

Peptic ulcer disease is a common condition that arises due to break in gastrointestinal lining due to either excess stomach acid production or blunted mucosal defenses. The disease most commonly involves distal oesophagus, stomach, duodenum, jejunum. In every year peptic ulcer disease affects 4 million peo¬ple around the world. This study was performed to assess the Prevalence of perforated peptic ulcer in stomach and duodenum along with clinical suggestion and treatment. This becomes a retrospective take a look at of the patients who admitted as an emergency to Sri Lakshmi Narayana Institute of Medical sciences, Pondicherry between 2019 to2020. Our examine included all the patients who have been recognized with gastric perforated ulcer 70 patients. X-ray abdomen erect posture, leukocyte count, serum amylase were performed along with other investigations. After surgery, site of perforation type of surgery along with any complications and outcome of treatment were recorded. Patients were followed-up for 30 days.Out of the total of 70 patients studied, 59 were men, i.e., 84.2% while 11were women, i.e., 15.7%, with a men and women ratio of 5.36:3. Twenty nine cases (41.4%) had perforated gastric ulcer (P.G.U), 26 patients (37.1%) with perforated duodenal ulcer (P.D.U))and15 patients (21.4%) had a drug-induced ulcer (D.I.U). Men are extra usually affected with peak occurrence inside the thirties. Abdominal pain and vomiting are the 2 essential and early scientific predictors of the diagnosis and risk.. Duodenum and pylorus are the most not unusual sites of perforation. A prompt, correct analysis and immediate surgical operation is of prime importance in patients with perforated peptic ulcers. The mortality fee increases with the duration of the interval among the time of the ulcer perforation and the time of the surgical treatment.

Keywords :-. Peptic Ulcer Disease, Non- Steroidal Anti-Inflammatory Drugs, Helicobacter Pylori Drug-Induced Ulcer.

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INTRODUCTION

PUD (Peptic ulcer disease) is a common condition that arises due to break in gastrointestinal lining due to either excess stomach acid production or blunted mucosal defenses. The disease most commonly involves distal oesophagus, stomach, duodenum, jejunum. [1] Every year peptic ulcer disease affects 4 million peo¬ple around the world. [2] It is widely prevalent among the population of south India than north India. Complications are encountered in 10–20% of Lifetime incidence is reported to be approximately 5%-10%. [3-4].

Acute perforations of peptic ulcers prolong as one of the real emergencies of surgery requiring immediate attention and prompt operation. Some studies shown that perforated peptic ulcers nearly half have no history of the disease.[5]

In various studies are reported the mortality of perforated peptic ulcers between 1.3% to 20% due to

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complications of PUD have decreased over the course of the20th century in both developed and developing countries.

About 84% of patients had signs and symptoms are mild abdominal pains. Other reported symptoms were dyspepsia, anorexia, and nausea and vomiting. Severe abdominal pain was only present in 16%.Duration of symptoms ranged from 4 hours to 10 days. Also, most patients had abdominal tenderness, with 66% exhibiting the classical signs of peritonitis. About 6% had no abdominal findings.[6]On endoscopy, unsuspected ulcers have been found in people who were taking non-steroidal anti-inflammatory drugs (NSAIDS) [7]

Based on epidemiological studies reveal that strong relationship between *H.pylori* infection and peptic ulcer disease.Due to histological changes, gastritis induced changes in homeostasis of gastric hormones and acid secretion, gastric metaplasia in the duodenum, interaction of *H. pylori* with the mucosal barrier, immunopathogenesis, ulcerogenic strains, and genetic factors and also effective medical management with H2 receptor blockers and proton pump inhibitors, and eradication of Helicobacter pylori, the incidence of peptic ulcers and hospitalization rate have decreased.

In current years, patients presenting with perforated peptic ulcers have tended to be elderly, chronically ill and taking one or more ulcerogenic drugs.In one study, one-third of patients had history of peptic ulcers and 32% of patients who presented with perforation were taking H2 receptor blockers, anti acids or both. A significant percentage of patients had a history of smoking, alcohol abuse, and postoperative stress.

In maximum cases of perforation, gastric and duodenal content spills into the peritoneal hollow space.Which consists of gastric and duodenal secretions, bile, ingested meals, and swallowed micro organism. The leakage results in peritonitis, with an improved threat of infection and abscess formation.Subsequent 1/3 spacing of fluid inside the peritoneal cavity due to perforation and peritonitis ends in inadequate circulatory volume, hypotension, and reduced urine output. In more extreme cases, shock may additionally take place. However the prevailing intentions have a look at in scientific notion and remedy of patients admitted with perforated peptic ulcer in stomach.

MATERIAL AND METHODS

This becomes a retrospective take a look at of the patients who admitted as an emergency to Sri Lakshmi Narayana Institute of Medical sciences, Pondicherry between 2019 to2020. Our examine included all the sufferers who have been recognized with gastric perforated ulcer 70 patients. The records accumulated blanketed the age of the individuals, the time onset of signs and records of PUD risk elements. A cautious medical records, bodily exam were the middle elements in making up the analysis, diagnostic approaches have been done consistent with availability, along with checking erect chest and stomach X-rays on X-ray screen, belly ultrasound in addition to routine laboratory tests includes blood count number and system, bleeding and coagulating time, prothrombin time, creatinine, urea & electrolytes, blood sugar, and urinalysis. Surgical interventions became based on clinical impression whether it changed into well suited with investigational finding or not, for the reason that seriousness of the medical affect was the maximum critical issue in determining the stairs of the control, After surgical operation web site of perforation form of surgical procedure alongside any headaches and final results of treatment had been recorded. Patients have been accompanied-up for 30 days. Statistical Analysis was done the usage of SPSS 23.0 (SPSS Inc.,).

RESULTS

Out of the total of 70 patients studied, 59 were men, i.e., 84.2% while 11were women, i.e., 15.7%, with a men and women ratio of 5.36:3.

The majority of our patients were in the age group 31–40 (*n* = 30, i.e., 42.8%) followed by age group group 41–50 (*n* = 23, i.e., 32.8%) and age group 21–30 (*n* = 14, i.e., 20%), respectively, with mean age being 36 years.

A popular of patients (*n* = 39, i.e., 55.7%) presented between 24 and 48 h of onset of symptoms. 20(28.5%) patients after 48 h of onset, within 24 h of onset of symptoms while 9 (12.8%) presented.

Out of total 29 patients (41.4%) had perforated gastric ulcer (P.G.U), 26 patients (37.1%) with perforated duodenal ulcer (P.D.U))and15 patients (21.4%) had a drug-induced ulcer (D.I.U).

The most of patients' onset of acute abdominal pain on presentation. In addition, half of them complained of constipation, 92.8% vomiting, 87.1% had a fever 84.2% had hematemesis17.1% and 11.2% had melena.

A majority of patients (*n* = 59, i.e., 84.2%) had a history of NSAID abuse followed by 56 (80%) were known smokers while 26 (37.1%) patients were admittedly alcoholics.

Erect abdomen X-ray including the dome of diaphragm proved that 59 patients (84.2%) with free air under the diaphragm the X-ray report based on the Radiologist experience in reviewing the radiological finding from the monitor due to the lack of X-ray films. Patients were treated either by laparotomy (91.5%) of all patients and by laparoscopy (8.5%), the surgical intervention consisted of the closure of perforation with an omental patch on also four quadrant biopsies taken in PGU.

Table 1: Age wise distribution

Age	Gastric ulcer	Duodenal ulcer	Total
20-30	3	11	14(20%)
31-40	4	26	30(42.8%)
41-50	2	21	23(32.8%)
51-60	1	1	2(2.8%)
>61	-	1	1(1.42%)

Table 2: Time of presentation after onset of symptoms

Time of presentation	Frequency	percentage
Within 6h	3	4.2%
6-24h	9	12.8%
24-48h	39	55.7%
Above 48 h	20	28.5%

Table 3: Distribution of types of PPU among patients in this study

Types of ulcer	Frequency	percentage
perforated gastric ulcer (P.G.U)	29	41.4%
perforated duodenal ulcer(P.D.U)	26	37.1%
Drug-induced ulcer (D.I.U)	15	21.4%

Table 4: Occurrence of different symptoms in patients of this study

Symptoms	Frequency	percentage
Abdominal pain	70	100%
Fever	59	84.2%
vomiting	61	87.1%
melena	8	11.2%
hematemesis	12	17.1%
constipation	65	92.8%

Table 5: Relation between patients of this study and PUD risk factors

Risk factors	Frequency	Percentage
Smoking	56	80%
alcohol	26	37.1%
stimulants	19	27.1%
NASIDS	59	84.2%

DISCUSSION:

In the present study out of 70 patients studied, 59 were men, i.e., 84.2% while 11were women, i.e., 15.7%, with a men and women ratio of 5.36:3this results correlated with Everett [8] (136 patients6.5:1ratio) and Svanes [9] in their study. This take a look at consents with the end result of our have a look at of males predominance in perforated peptic ulcer cases. In women the prevalence become low and pretty strong until approximately 1950, from which period it slowly elevated. Increasing age among ulcer perforation sufferers has been located during this time span, with declining incidence a few of the young and growing prevalence most of the aged. It turned into concluded that this will be due to local variations.

The majority of our patients were in the age group 31–40 (*n* = 30, i.e., 42.8%) followed by age group group 41–50 (*n* = 23, i.e., 32.8%) Our findings are similar to the result of other research such as Bansod [11] study (21-50 age) and Hannan [12] 34% (30-40).

In our study a patients (*n* = 39, i.e., 55.7%) presented between 24 and 48 h of onset of symptoms. 20(28.5%) patients after 48 h of onset, within 24 h of onset of symptoms while 9 (12.8%) presented this results correlated with the Nishith M Paul Ekka et al study. [13] Limiting surgical postpone is of paramount significance in treating patients with PPU and due to lack of know-how and education among our populace. Also the truth that the first scientific personnel these bad humans come across are generally quakes or paramedical team of workers which leads to postpone in diagnosis and proper

referral. According to Danish Clinical Register of Emergency Surgery, a cohort study which include 2668 patients confirmed that each hour of delay from admission to surgical procedure became related to an adjusted 2. Four per cent decreased opportunity of survival compared with the previous hour. [14]

In our study, 59 patients (84.2%) were taking NSAIDS and mostly within the age group (40-50) because 1 in 4 patients taking NSAIDs for a long period will get a PUD and 2-4% will have complications (bleeding or perforation). [15, 16] study showed 23% of PUD is related to smoking which correlated with our study 80% (56patients) were smokers. probably due to its effect on pancreatic bicarbonate secretion, which increases gastric acidity. Alcohol and stimulants also increase PUD risk and, in our study, 37% and 27.1% of all patients were ingesting alcohol, respectively.

All patients stated Radiology Dept for chest and stomach screening inside the erect position urgently and reviewed by way of an professional Radiologist at the monitor simplest due to a loss of X-ray films, in the case of acute abdomen presentation with serum amylase/lipase. [17] Study 75% of PPU have free air under the diaphragm correlated with our study, 84.2% of patients had free air under the diaphragm.

Closure of perforation is the treatment of choice for PPU. Sixty-four patients (91.5%) were treated with classical surgery while only 3 patients (8.5%) were treated with laparoscopic surgery [18]. The size of PPU played a major factor in switching to conventional from laparoscopic surgery treatment when the ulcer size is larger than 9 mm. In our study, most of the patients' ulcers were 2-10 mm while only eight had an ulcer wider than 15 mm.

CONCLUSION

Perforation of peptic ulcer is one of the greater commonplace reasons which require emergency laparotomy. Men are extra usually affected with peak occurrence inside the thirties. Abdominal pain and vomiting are the 2 essential and early scientific predictors of the diagnosis and risk. Duodenum and pylorus are the most not unusual sites of perforation. A prompt, correct analysis and immediate surgical operation is of prime importance in patients with perforated peptic ulcers. The mortality fee increases with the duration of the interval among the time of the ulcer perforation and the time of the surgical treatment.

REFERENCES

1. Malik TF, Gnanapandithan K, Singh K: (2019). Peptic Ulcer Disease. StatPearls, *Treasure Island* (FL), 305, 212-13.
2. Zelickson MS, Bronder CM, Johnson BL, Camunas JA, Smith DE, (2011). Rawlinson D: *Helicobacter pylori* is not the predominant etiology for peptic ulcers requiring operation. *Am Surg.* 77, 1054–1060.
3. Dogra JR. (1941). Incidence of peptic ulcer in India with special reference to South India. *Indian J Med Res* 29, 665–76.
4. Malhotra SL. (1964), Peptic ulcer in India and its etiology. *Gut* 5, 412–6.
5. Kocer B (2007). Mortality and morbidity in patients with perforated peptic ulcer disease. *J Gastroenter* 22(4), 102-106.
6. Lanas A, García-Rodríguez LA, Polo-Tomás M, (2011). The changing face of hospitalisation due to gastrointestinal bleeding and perforation. *Aliment Pharmacol Ther.*, 33, 585-91.
7. Svanes C (1993). Perforated peptic ulcers over 56 years. Time trends in patients and characteristics *BJS* 34(12)1666-1671.
8. Everett JS, Harkins HN, Olson HH, Moore HG (Jr),Merendino KA. Perforated Peptic Ulcer: A Study of 136 Cases in a County Hospital. *Ann Surg.* 1953, 138(5), 689–697.
9. Svanes C. (2000). Trends in perforated peptic ulcer: Incidence, etiology, treatment, and prognosis. *World J Surg* 24(3), 277–83.
10. Kenneth T, Glomsaker TB, von Meer A, Søreide K and Søreide JA. (2011).Trends in diagnosis and surgical management of patients with perforated peptic ulcer. *J Gastrointest Surg*, 15(8), 1329–35.
11. Bansod A, Bansod SA, Galande AB. (2014,). Study of incidence of peptic ulcer perforation in young adults. *Int Surg J* 1(3), 144–7.
12. Hannan A, Islam B, Hussain M, Haque MM, Kudrat-E-Khuda MI. (2005). Early complications of suture closure of perforated duodenal ulcer: A study of 100 cases. *Teach Assoc J*. 18(2), 122–6.
13. Nishith M Paul Ekka, (2016). Shital Malua Clinical study of peptic ulcer perforation in eastern India: An tertiary institution-based study *International Journal of Medical Science and Public Health* 5(12).
14. Buck DL, Vester-Andersen M, Moller MH. (2013). Danish clinical register of emergency surgery surgical delay is a critical determinant of survival in perforated peptic ulcer. *Br J Surg*, 100(8), 1045–9.
15. Singh G (2000) Gastrointestinal complications of prescription and over-the-counter nonsteroidal anti-inflammatory drugs: A view from the ARAMIS database. Arthritis, Rheumatism, and Aging Medical Information System. *Am J Ther* 7, 115-121.

16. Kurata JH, Nogawa AN (1997). Meta-analysis of risk factors for peptic ulcer. Nonsteroidal antiinflammatory drugs, Helicobacter pylori, and smoking. *J Clin Gastroenterol* 24, 2-17.
17. Nuhu A, Madziga AG, Gali BM (2009). Acute perforated duodenal ulcer in Maiduguri: Experience with simple closure and Helicobacter pylori eradication. *West Afr J Med* 28, 384-387.
18. Kim JH, Chin HM, Bae YJ, Jun KH (2015). Risk factors associated with conversion of laparoscopic simple closure in perforated duodenal ulcer. *Int J Surg* 15, 40-44.

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