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General Surgery

To Find out the Prevalence of Peptic Ulcer Perforation Related to *H. pylori* Infection

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Abstract		Original Research Article

Background: The present study titled "To find out the Prevalence of Peptic Ulcer Perforation related to H. Pylori infection" was conducted among the 100 patients at Anand Hospital, Indore from, Jan 2018 to Jan 2019. *Result:* The total number of patients studied was 100. The age of participating patients ranged between 17 to 80 years with mean age of 42.35±4.65 years. 63% of the patients were in the age group 30-50 years. The mean age as seen in a few other studies was between 48-70 years (88, 89). Pain abdomen was the first symptom reported invariably in all the cases (100%) followed by abdominal distension (91%) and vomiting (86%). The findings correspond to those by PKV Koliwad (93) and other researchers too (94). The highest number of positive results (72%) was found with Serum Antibody Test. The sensitivity and specificity of the test have been reported to be 98% and 94% respectively (99). *Conclusion:* Peptic perforations may occur in any age group, though the peak incidence is in the age group of 30-50 years. Like many other gastrointestinal disorders, these are more common among the males. The most common risk factor behind gastric and duodenal ulcers and perforations is considered to be Helicobacter pylori infection.
Keywords: Prevalence, Peptic Ulcer, Perforation & H. Pylori.
Study Designed: Observational Study.

INTRODUCTION

In 1983, the whole thinking regarding pathophysiology and management of this disease was revolutionized when Warren and Marshall reported Helicobacter pylori. They are recognized as a major causative factor of peptic ulcer disease and their eradication leads to cure of disease, i.e. better symptom control and fewer relapses. H. pylori infection is almost always present in the setting of active chronic gastritis and is present in most duodenal (>90%) and gastric 60 % to 90% in ulcer patients [1].

Study is mainly intended to observe the prevalence of H. pylori in peptic ulcer perforation cases by histopathological examination and the rationale of H. pylori eradication therapy postoperatively. Along with this other factor like type and location of ulcer, and proportion of H. pylori infection in factors like smoking, NSAID intake, diet, hypertension, diabetes mellitus etc. was also studied[2].

MATERIALS & METHODS

The present study titled "To find out the Prevalence of Peptic Ulcer Perforation related to H. Pylori infection" was conducted among the 100 patients at Anand Hospital, Indore from Jan 2018 to Jan 2019.

Intra-operative biopsy specimens from cases of perforated peptic ulceration, tested positive by Rapid Urease Test (RUT) were taken and sent to the laboratory for identification of H. pylori Microbiological Processing. The biopsy specimen was homogenized by grinding it in a ground glass grinder and divided into two parts - one for Gram-staining and one for culture. For Gram-staining, the biopsy sample was taken on a clean slide over an area of 2 cm2 × 1 cm2 with one drop of sterile normal saline. Gram-staining was done using freshly prepared Gram's reagents (Gram's crystal violet and Safranin 0.5% w/v). Gram-negative, pale staining, short, plump, curved bacilli were considered to be suggestive of H. pylori. For culture, the homogenized biopsy specimen was streaked on freshly prepared blood agar and Modified Thayer-Martin agar augmented with 7% sterile, lysed blood and VCN supplement to inhibit the growth of contaminant gut flora. The plates were incubated in a McIntosh Fildes'anaerobic jar under micro-aerophilic condition for 7 days. The plates were examined for growth every 48 hours. Growth generally appeared by

day 5-6. If no growth of H. pylori appeared by day 10, plates were discarded, and the specimen labeled as negative for H. pylori. H. pylori isolates were identified by typical colony morphology. Small, gray, translucent colonies were seen on Modified Thayer Martin medium and blood agar. Biochemical identification was done by a positive catalase test, oxidase test and urease test and the inability of the isolate to hydrolyze hippurate and reduce nitrates to nitrites. Detailed clinical history was obtained and a thorough systemic and local examination of the patient done.

Inclusion criteria

All the patients of peptic ulcer perforation admitted to Index Medical College, Hospital and Research Centre, Indore.

Exclusion Criteria

Patient having perforation following blunt abdominal trauma

RESULTS

Table-01: Distribution of participants

According to age(n=100)		
Age in years	Number of Patients	Percentage (%)
Less than 30 years	19	19.0
30-50 years	63	63.0
More than 50 years	18	18.0
Total	100	100.0

Table-03: Distribution of participants according to results of serum antibody test (n=100)

	Number	Percentage (%)
Positive	72	72.0
Negative	28	28.0
Total (n)	100	100.0

DISCUSSION

The total number of patients studied was 100. The age of participating patients ranged between 17 to 80 years with mean age of 42.35±4.65 years. 63% of the patients were in the age group 30-50 years (Table 01). The mean age as seen in a few other studies was between 48-70 years [3, 4].

Pain abdomen was the first symptom (Table 02) reported invariably in all the cases (100%) followed by abdominal distension (91%) and vomiting (86%). The findings correspond to those by PKV Koliwad [5] and other researchers too [6].

The highest number of positive results (72%) was found with Serum Antibody Test (Table 03). The sensitivity and specificity of the test have been reported to be 98% and 94% respectively [7].

CONCLUSION

Peptic perforations may occur in any age group, though the peak incidence is in the age group of 30-50 years. Like many other gastrointestinal disorders, these are more common among the males. The most common risk factor behind gastric and duodenal ulcers and perforations is considered to be Helicobacter pylori infection.

REFERENCES

1. Warren JR, Marshall BJ. Unidentified curved bascilli on gastric epithelium in active chronic gastritis. Lancet. 1983;1(8336):1273-5.
2. Moller MH, Adamsen S, Thomsen RW, Moller AM. Multicentre trial of a perioperative protocol to reduce mortality in patients with peptic ulcer perforation. Br J Surg. 2011;98(6):802-10
3. Bjorkman JH. Pylori, NSAIDs and Peptic Ulcer Bleeding. 2005. Clin Gastroenterol Hepatol. 3:859-64.
4. Oliveira AG, Santos A, Guerra GB, Rocha GA, Rocha AM, Oliveira CA. babA2- and cagAPositive Helicobacter pylori Strains Are Associated with Duodenal Ulcer and Gastric Carcinoma in Brazil. Journal of Clinical Microbiology. 2003; 41 (8): 3964-6.
5. Koliwad PKV. A clinicopathological study of Duodenal Ulcer Perforation and its Management.2013.
6. Tsugawa K. The therapeutic strategies in performing emergency surgery for gastroduodenal ulcer perforation in 130 patients over 70 years of age. Hepatogastroenterology. 2001;48(37):156-62.
7. Yoon H, Kim N, Lee BH, Hwang TJ, Lee DH, Park YS, Nam RH, Jung HC, Song IS. Moxifloxacin-containing triple therapy as second-line treatment for Helicobacter pylori infection: effect of treatment duration and antibiotic resistance on the eradication rate. Helicobacter. 2009 Oct;14(5):429-37.