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Research Article

**PREVALENCE OF NON-HELICOBACTER PYLORI
DUODENAL ULCER**Dr Saba Khurshid¹, Dr Aisha Khan¹, Dr Shazib Muhammad Saeed²¹Fatima Jinnah Medical University, Lahore²Punjab Medical College, Faisalabad

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Abstract:

Introduction: *Helicobacter* species infect the gastrointestinal tracts of many animals from birds through humans. Some of these have been linked to a range of human diseases including chronic gastritis, peptic ulcer disease, mucosa-associated lymphoid tissue lymphoma, and gastric adenocarcinoma. **Objectives:** The main objective of the study is to analyse the prevalence of non-*Helicobacter pylori* duodenal ulcer. **Material and methods:** This descriptive study was conducted in Fatima Jinnah Medical University, Lahore during 2019. The data was collected from those patients who visited the OPD of the hospital. *H pylori* infection was confirmed by rapid urease test and histopathology, which was later used as the gold standard for the diagnosis. **Results:** Patients with NSAID-related duodenal ulcers had a higher male: female ratio of 4:1 with mean age of 62±16 years. Abdominal pain was common in *H pylori* infection 54% however, symptoms of abdominal pain, hematemesis and melena were relatively more in those with NSAID related duodenal ulcer covering 36%. *H pylori* and non-*H pylori* non-NSAID duodenal ulcer had a similar male:female ratio and mean age. **Conclusion:** It is concluded that *H pylori* infection-related duodenal ulcer is still common while NSAID-related duodenal ulcers occur in older age group.

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INTRODUCTION:

Helicobacter species infect the gastrointestinal tracts of many animals from birds through humans. Some of these have been linked to a range of human diseases including chronic gastritis, peptic ulcer disease, mucosa-associated lymphoid tissue lymphoma, and gastric adenocarcinoma. The principal Helicobacter infection in humans is Helicobacter pylori, with infection rates in developing countries reaching 50% to 90%. Human gastric biopsy samples, however, have shown to harbor bacteria which were morphologically different from H. pylori [1].

Peptic ulcer is a leading cause of morbidity and mortality. Helicobacter pylori (H pylori) infection and nonsteroidal anti-inflammatory drugs (NSAIDs) are recognized as the most important causes of peptic ulcer disease. H pylori infection is considered as a prerequisite for duodenal and gastric ulcers [2]. The widespread use of NSAIDs has led to an increased incidence of ulcer complications. There has been an increase in admission for ulcer related complications among elderly people, which is attributed to the increased use of NSAIDs and low-dose aspirin [3]. An estimated 16500 patients with arthritis die from the gastrointestinal toxicity of NSAIDs every year. The decline in prevalence of H pylori infection in developed countries has changed the pattern of peptic ulcer diseases. Studies from North America showed that 11-44% of peptic ulcers were not related to either of the two factors [4]. In a meta-analysis of duodenal ulcer trials in North America, 20% of patients had ulcer recurrence within 6 mo after the eradication of H pylori. This is in contrast with studies from Asia where the prevalence of H pylori infection is high and that of ulcers not related to H pylori or NSAIDs is very low [5].

Non-Helicobacter pylori-helicobacters (NHPH) compose a group of gram negative zoonotic bacteria that may induce in humans gastric diseases including gastritis, gastroduodenal ulcer and MALT lymphoma. Their prevalence in the general population has previously been reported to 0.1-6.2%, although such reports still remain less in number [6].

Objectives

The main objective of the study is to analyse the prevalence of non-Helicobacter pylori duodenal ulcer.

MATERIAL AND METHODS:

This descriptive study was conducted in Fatima Jinnah Medical University, Lahore during 2019. The data was collected from those patients who visited the OPD of the hospital. H pylori infection was confirmed by rapid urease test and histopathology, which was later used as the gold standard for the diagnosis. Age, sex, co-morbid conditions, history of aspirin, NSAIDs, proton pump inhibitor (PPI), histamine-2 receptor blocker (H2-RB), antibiotics usage, etc., were noted. Co-morbid conditions included hypertension, ischemic heart disease, diabetes mellitus, dyslipidemia, arthritis, etc. NSAID/aspirin usage was defined as ingestion of at least one dose within 4 wk before endoscopy. The risk factors associated with peptic ulcer diseases such as smoking and alcoholism were also noted. The endoscopic lesions were defined as duodenal ulcer with a break of ≥ 5 mm in the mucosal surface with an apparent depth, duodenitis and signs of active bleeding such as oozing and visible blood vessels.

$P < 0.05$ was considered statistically significant. Statistical interpretation of data was performed using the computerized software program SPSS version 10.0.

RESULTS:

Patients with NSAID-related duodenal ulcers had a higher male: female ratio of 4:1 with mean age of 62 ± 16 years. Abdominal pain was common in H pylori infection 54% however, symptoms of abdominal pain, hematemesis and melena were relatively more in those with NSAID related duodenal ulcer covering 36%. H pylori and non-H pylori non-NSAID duodenal ulcer had a similar male:female ratio and mean age. Co-morbid conditions were more common in non-H pylori non-NSAID, which were 34% (21/62) and 23% (27/116) in H pylori, respectively.

Table 01: Co-morbid conditions associated with duodenal ulcer

Co-morbid	H pylori infection	NSAIDs related	Non-H pylori non-NSAIDs related	H pylori and NSAIDs related
HTN	12	3	9	1
DM	5	1	3	2
IHD	4	3	8	4
Arthritis	6	6	1	4

Table 02: Clinical detail of the patients with duodenal ulcer

Variables	H pylori infection	NSAIDs related	Non-H pylori non-NSAIDs	H pylori and related NSAIDs related
Gender				
Male	80	18	42	11
Female	36	4	20	6
Mean age±SD	41±14.3	62±16.2	42±17	53±13.6
Symptoms				
Abdominal pain	63	6	30	8
Non-specific	10	4	7	3
AHM	10	8	12	6
Bloating	33	4	13	3
Past history				
Peptic ulcer	18	4	5	1

DISCUSSION:

It is known that not all ulcers are caused by *H pylori* and that there is evidence that the proportion of non-*H pylori* ulcers is common. The present study demonstrated that *H pylori* infection related duodenal ulcers accounted for 53% and those associated with NSAIDs 10%. The NSAIDs used were conventional and not selective COX-2 inhibitors [7]. The mean age and the male to female ratio of patients with NSAID-related duodenal ulcer were comparatively higher than those of other three groups. We did not find any association between risk factors such as smoking and alcohol intake with duodenal ulcer in any group. Abdominal pain was frequent in all groups, the combination of abdominal pain, hematemesis and melena was prominently seen in association with non-*H pylori* non-NSAIDs [8]. Past history of peptic ulcer diseases was present in *H pylori* infection, none of these patients with past histories of peptic ulcer diseases was found to be on maintenance PPI or H2-RB. In keeping with other studies, co-morbid conditions were commonly associated with non-*H pylori* non-NSAID-related duodenal ulcer. As the sample size was small, it was not sufficient to compare these co-morbid conditions individually in each of the four groups. Endoscopic duodenitis and signs of active bleeding on endoscopy were not prominent in any particular group [9-10].

CONCLUSION:

It is concluded that *H pylori* infection-related duodenal ulcer is still common while NSAID-related duodenal ulcers occur in older age group.

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