

Original Article

Incidence of *Helicobacter Pylori* in Patients with Nonnuclear Dyspepsia

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ABSTRACT

Objectives: To perform a systematic review of the literature to determine whether chronic infection with *H. Pylori* is relevant to nonnuclear or uninvestigated dyspepsia.

Study Design: Hospital base prospective study

Place and Duration: The study was carried in Department of Medicine Sandeman Provincial Hospital Quetta from January 2010 to January 2011.

Background: Previous studies have yielded conflicting results and substantial uncertainty about any independent association of *Helicobacter pylori* infection with dyspepsia.

Patients and Methods: 120 patients, 72 Males and 48 females belonging to age group 17 years to 70 years, with upper abdominal symptoms were examined with an Olympus CIF X Q 10 Gastroscope. Patients who had endoscopic features of gastritis and the patients with normal looking gastric mucosa on endoscopy but with upper abdominal symptoms, had biopsies taken from gastric antrum and body for histological and microbiological examination. None of these patients treated with antibiotic or Bismuth preparations before this gastoscopic examination. H2 receptor antagonists were discontinued at least one week before the endoscopic examination.

Results: In our study 120 cases with upper abdominal symptoms were entered. They were between 17-70 years of age. 72 were Male and 48 were female. 82 patients who had histological evidence of gastritis had positive *H. pylori* infestation of gastric mucosa. 38 cases were with normal histological findings were negative for *H. pylori* infestation. Association of *H. pylori* and endoscopic evidence of gastritis was 60%. 68% of patient who had histological evidence of gastritis had positive *H. pylori* infestation and 32% cases with normal histological findings or negative for *H. pylori*.

Conclusion: The role of *H. pylori* in the pathogenesis of chronic gastritis and peptic ulceration has thrown new light of etiology of this condition, but our study revealed the role of *H. pylori* in NUD. In the view of above mention study the prevalence of *H. pylori* with NUD was 68%. Patient with histological proven were 100% positive for *H. pylori* infestations in gastric mucosa. In the end question arises whether to treat such patient with *H. pylori* eradication therapy to prevent the high rate of the recurrence of symptoms and gastritis in these patient whether these therapy will be cost effective and beneficial for the patient remains to be discovered and open the new door for research.

Key Words: *Helicobacter Pylori*, Nonnuclear Dyspepsia

INTRODUCTION

Non-ulcer dyspepsia is a symptom complex characterised by postprandial upper abdominal discomfort or pain, early satiety, nausea, vomiting, abdominal distension, bloating, and anorexia in the absence of organic disease. It is a common clinical problem encountered by primary internists and gastroenterologists. Gastric motor abnormalities altered symptom threshold, psychosocial factors, and *Helicobacter pylori* infection are considered important etiological mechanisms.

The first successful culture of *Helicobacter pylori* in 1983 introduced the concept of *Helicobacter pylori* in the pathogenesis of gastritis and peptic ulceration. The etiological role of *Helicobacter pylori* in type B chronic gastritis has been accepted. *Helicobacter pylori* is responsible for duodenitis and duodenitis is considered to be a precursor of duodenal ulcer. Chronic

Helicobacter pylori colonization result in *Helicobacter pylori* induced hypergastrinaemia with gastric hypersecretion in duodenal ulcer disease. *Helicobacter pylori* infection of gastric epithelium has been associated with epidemic hypochlorhydria especially in acute infections and also with gastric carcinoma. *Helicobacter pylori* binds with specific lipid receptor present in gastric mucosal tissues. The level of this lipid is higher in antrum than in fundus of stomach. This lipids may protect substrates against proteolytic degradation. A genetic predisposition to the development of *Helicobacter pylori* associated antral gastritis has been proposed. Urease is produced in abundance by *Helicobacter* organisms and this protect them from gastric acid by forming ammonia from urea. Some workers have described *Helicobacter pylori* as a zoonosis by detecting high titres of Ig G to *Helicobacter pylori* in sera of abattoir workers in direct contact with freshly cut animal parts.

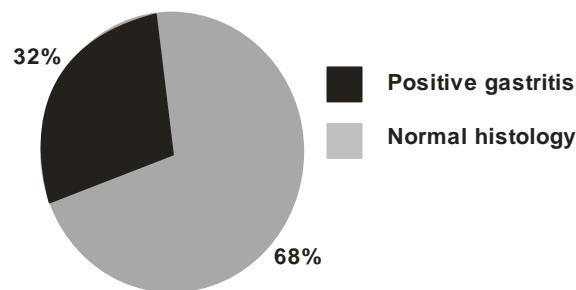
PATIENTS AND METHODS

120 patients, 72 Males and 48 females belonging to age group 17 years to 70 years, with upper abdominal symptoms were examined with an Olympus CIF X Q 10 Gastroscope. Patients who had endoscopic features of gastritis and the patients with normal looking gastric mucosa on endoscopy but with upper abdominal symptoms, had biopsies taken from gastric antrum and body for histological and microbiological examination. None of these patients treated with antibiotic or Bismuth preparations before this gastoscopic examination. H2 receptor antagonists were discontinued at least one week before the endoscopic examination.

RESULTS

In our study 120 cases with upper abdominal symptoms were entered. They were between 17-70 years of age. 72 were Male and 48 were female. 82 patients who had histological evidence of gastritis had positive H.pylori infestation of gastric mucosa. 38 cases were with normal histological findings were negative for H.pylori infestation. Association of H.pylori and endoscopic evidence of gastritis was 60%. 68% of patient who had histological evidence of gastritis had positive H.Pylori infestation and 32% cases with normal histological findings or negative for H.Pylori.

Incidence of H.Pylori with Gastritis



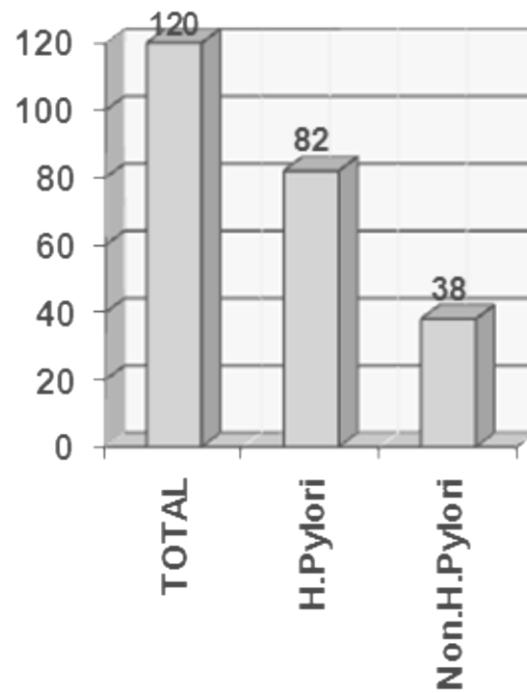
DISCUSSION

Interest shown by research scientist in the etiological role of H.pylori has thrown new light on the gram negative bacteria it. In the October 1989 the international journal of systemic bacteriology, H.Pylori was suggested instead of old name C.Pylori. The name was purposed because the ultrastructure of H.Pylori, its fatty acid composition and its genomic analysis of RNA sequence has revealed that H.pylori does not belong to C. Bacteria genus. The new genus name reflects the two morphological appearance of organism, helical in vivo but rod like in vitro. H.Pylori may be detected in a greater number of antrum biopsy specimens if histology

and bacterial culture are done besides the urease test. Urease negative patients have very small number of organisms and highly sensitive culture and histological techniques are required to elicit them. Rapid urease test used in endoscopy room to follow up the eradication of H.Pylori after treatment with Tripotassium dicitrato bismuthate (TDR) should be interpreted with caution because TDB strongly affects rapid urease test by giving a false negative result.

Detection of H.Pylori antibodies in the serum by E.L.I.S.A. test and time resolved fluoro immunoassay has been proposed to be highly sensitive and specific, which might replace endoscopy in the diagnosis of gastritis associated with H.Pylori. Most recently H.Pylori detection antigen in the stool is the most convenient way of detecting H. Pylori infection.

Incidence of H.Pylori in Patient with NUD



In 0.3% of patients with gastritis a long corkscrew organism, gastro spirillum hominis is present deep in gastric pits and neck of pyloric glands. They do not cause any characteristic endoscopic appearance. Gastro spirillum hominis has cell wall structure of gram negative bacteria. With 6-8 coils per cell and has up to eight sheathed flagella at each pole. Exact pathogenicity and importance of this new organism has yet to be exploited.

CONCLUSION

The role of *H.pylori* in the pathogenesis of chronic gastritis and peptic ulceration has thrown new light of etiology of this condition, but our study revealed the role of *H.pylori* in NUD. In the view of above mention study the prevalence of *H.pylori* with NUD was 68%. Patient with histological proven were 100% positive for *H.pylori* infestations in gastric mucosa. In the end question arises whether to treat such patient with *H.pylori* eradication therapy to prevent the high rate of the recurrence of symptoms and gastritis in these patient whether these therapy will be cost effective and beneficial for the patient remains to be discovered and open the new door for research.

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Original Article

Acute Abdomen Cases Presenting At Fauji Foundation Hospital, Rawalpindi

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ABSTRACT

Objectives: To study the common causes of acute abdomen at Fauji Foundation Hospital, Rawalpindi.

Study Design: Descriptive study.

Place and Duration of Study: This Study was conducted at the Department of Surgery, Fauji Foundation Hospital, Rawalpindi from December 13, 2009 to February 22, 2011.

Patients & Methods: A total of 840 patients who presented with acute abdominal pain and were admitted from the emergency department of Fauji Foundation Hospital, Rawalpindi from December, 2009 to February, 2011 were included in the study. The data of the 840 male and female patients was collected on the Patient Performa and then transferred to the data sheet IV of SPSS 10. The results were analyzed by calculating the frequencies of acute abdomen causes.

Results: The most frequent cause was non specific abdominal pain (38.7%) followed by acute cholecystitis (7.7%) and acute appendicitis (6.8%). Total exploratory laparotomies done were 204 (24.3%) while 498 (59.3%) patients were managed conservatively with ultrasound abdomen and pain medication.

Conclusions: Non specific pain was found to be the most common cause of acute abdomen followed by acute cholecystitis and acute appendicitis. The diagnostic accuracy can be enhanced especially in females of child bearing age by the use of ultrasonography and selective diagnostic laparoscopy.

Key Words: Acute abdomen, Abdominal pain, Non specific pain.

INTRODUCTION

The term acute abdomen means a non traumatic abdominal disorder in which pain is the predominant symptom and it may or may not require surgical intervention¹. This change can be due to some kind of infection or inflammation. This intra abdominal disorder is progressive in nature and early diagnosis and treatment is desired to have a satisfactory outcome². The pain is usually a feature but not always the case. A pain free acute abdomen is more likely in the elderly, in children and in the third trimester of the pregnancy³.

Acute abdomen is a common problem in surgical wards and one of the common symptoms of patients presenting in the accident & emergency department of any tertiary care hospital. From a surgical point of view, abdominal pain is the cardinal symptom of acute abdomen.

There are many causes of acute abdomen which not only can cause serious complications but even can lead to the death of the patient. Hence early diagnosis and proper management are imperative but that does not mean acute abdomen should be equated with the invariable need for surgical intervention. Co-relating the clinical findings with the differential diagnosis helps decide whether surgical intervention is required or the patient can be managed conservatively. Such

cases are tools by virtue of which the junior members of the team can learn the basic principles of surgery.

It has been observed that the acute abdomen is a good test of clinical acumen of the clinician. The vital signs may be normal in the initial phase of the illness and later on the patient may deteriorate rapidly. An accurate and detailed history of the patient with the knowledge of the nature of the pain and its location are really important to make a differential diagnosis³.

Purpose of Study

The rationale of this study is to find the frequency and patterns of different diseases presenting as acute abdomen at Fauji Foundation Hospital, Rawalpindi.

PATIENTS AND METHODS

This study was carried out in the emergency department of Fauji Foundation Hospital, Rawalpindi from December, 2009 to February, 2011. Almost all patients were ex-service men and their families. All patients who presented with non-traumatic acute abdomen were included in the study.

On arrival in the emergency room, each patient was evaluated by detailed history and thorough physical examination. Complete Blood Count (CBC), urine analysis, serum urea and creatinine, random blood sugar and serum electrolytes were done. Ultrasound abdomen and relevant X-rays were done in cases where

peritonitis or intestinal obstruction was suspected. A provisional diagnosis was made and initial supportive management instituted before shifting the patient to the surgical ward.

Study Design: Descriptive Study

Sampling Technique: Non probability convenient sampling 840 patients were included in this study

Inclusion Criteria

- a Patients of all age group
- b Both male and female patients were included

Exclusion Criteria

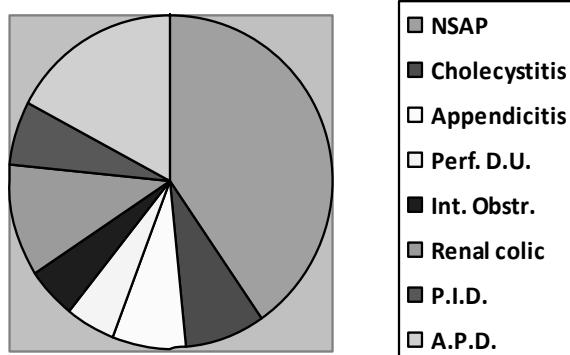
- a All patient with blunt and penetrating trauma
- b Patients with medical causes

The data of the 840 male and female patients was collected on the Patient Performa and then transferred to the data sheet IV of SPSS 10. The results were analyzed by calculating the frequencies of acute abdomen causes.

RESULTS

The age range was from 06 years to 78 years. The median age was 42 years. Our study was based on non-probability / convenient sampling. Only 24% patients of our study population were male.

In this study, the most frequent cause of acute abdomen was found to be non-specific abdominal pain (NSAP)(38.7%) followed by acute cholecystitis (7.7%), acute appendicitis (6.8%), perforated duodenal ulcer (PDU) (4.9%), intestinal obstruction (4.8%), renal colic (10.5%), pelvic inflammatory disease (5.8%), acute pancreatitis (2.8%) and meckel's diverticulum (0.3%) (Figure 1). Miscellaneous causes like acid peptic disease (16.6%), mesenteric lymphadenitis (0.76%), diverticulitis (0.17%) and ischemic colitis (0.17%) were the other causes of acute abdomen in our study.



Total exploratory laparotomies done were 204 (24.3%) while 498 (59.3%) patients were managed conservatively with ultrasound abdomen and pain medication. Patients with renal colic were 89 (10.6%)

which were referred to urology and patients with pelvic inflammatory disease were 49 (5.8%) which were referred to gynaecology department respectively.

DISCUSSION

Evaluation of the patient with acute abdominal pain requires a careful history and physical examination by a skilled physician along with appropriate diagnostic testing. A thorough workup and broad differential diagnosis are essential elements to establishing a correct diagnosis³. Older adults may have delayed presentations of serious illnesses, and their signs and symptoms of disease may be atypical³. If a diagnosis is unclear, an early surgical consultation and hospital admission should always be considered.

It has been seen that the most common cause of acute abdominal pain is acute appendicitis anywhere in the world⁴. This is especially true in case of children. In a study by Akhtar Firdous et al, acute appendicitis, non-specific mesenteric lymphadenitis and urinary tract infection were equally common (20% each), worm infestation and constipation with anal fissure were observed in 10% and 8% respectively while in 14% of cases, abdominal pain was non-specific⁵.

However, geographical differences can result in variable causes. A Series of 173 cases of acute abdominal surgical emergency in a rural hospital of Sierra Leone revealed that the most common cause of acute abdomen was strangulated hernia followed by acute appendicitis⁶.

Our study revealed that the most common cause of acute abdomen was non-specific abdominal pain followed by acute cholecystitis and then acute appendicitis. This is most likely due to the fact that our hospital mainly treats the families of retired army personnel and not the general population as such. The majority of our patients are female, also for the same reason.

NSAP is a significant problem in general surgery and accounts for an estimated 13% to 40% of emergency surgical admissions for acute abdominal pain^{7, 16}. Many suggestions have been made about improving diagnostic rates in acute NSAP. DeDombal et al⁸ have suggested that the proportion of correct diagnoses can be greatly increased by the use of structured questionnaires and diagnostic programs on computers. Although computer-aided diagnosis can improve diagnostic rates by at least 20%, these programs are unpopular⁹. Other researchers have suggested ultrasonography¹⁰, thermography, peritoneal cytology, CT, and more recently spiral computer tomography¹¹. Nevertheless, none of these techniques seems to have been determinant in improving the clinical management of NSAP.

We referred 89 patients with renal colic to urology after getting a confirmatory ultrasound examination. Similarly, 49 patients with pelvic inflammatory disease were referred to gynaecology department after an ultrasound respectively. As a rule, we get an ultrasound examination in every female patient with a complaint of lower abdominal pain. Male patients with mild to moderate lower abdominal pain are also subjected to an ultrasound examination. Ultrasound has shown a sensitivity of 88.8% in the diagnosis of appendicitis while it has shown a specificity of 83.9%¹². It is recommended to use ultrasonography in every female patient, especially in the child bearing age, to be certain of the diagnosis and to rule out gynaecological causes of acute abdomen.

In the management of acute abdomen, laparoscopy has both a diagnostic and a therapeutic role¹³. Many studies have demonstrated an improvement in surgical decision making associated with its use, particularly when the need for an operation is uncertain^{14, 17}. We did not use diagnostic laparoscopy routinely in our patients as the facility is not available in the evening in the emergency. Instead, we relied mainly on ultrasonography to help with the diagnosis. In a study by Mario Morino et al, early laparoscopy as compared to ultrasonography did not show a clear benefit in women with NSAP¹⁵. We managed the NSAP patients conservatively with serial ultrasound abdomen and pain medication with satisfactory results.

CONCLUSION

The most common cause of acute abdomen in our study was non-specific pain abdominal pain (38.7%) followed by acute cholecystitis (7.7%), acute appendicitis (6.8%), perforated duodenal ulcer (4.9%) and intestinal obstruction in (4.8%) of the cases. We found that the NSAP patients responded to conservative management with serial ultrasound abdomen and pain medication with satisfactory results.

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