

The Role of Endoscopically Confirmed Duodenitis not Associated with Peptic Ulcer in the Pathogenesis of Upper Abdominal Pain: A Prospective Hospital Based Study

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Abstract

Background: Duodenitis is an inflammatory condition of the duodenal mucosa. It can be associated with abdominal pain. Like peptic ulcer. The present study aim is to evaluate the role of endoscopically confirmed duodenitis not associated with peptic ulcer in the pathogenesis of upper abdominal pain. **Materials and Methods:** This study was conducted in the Department of General Surgery, SUT Medical College, Kerala during the period of Feb 2014-Jan 2015. Total 50 patients were included in the study based on inclusion and exclusion criteria. The patients were explained the procedure and informed consent was obtained. Both sexes were included in the study. All the subjects demographic data was collected; they were evaluated endoscopically for the duodenitis. The data was expressed in number and percentage. **Results:** 50 patients were included in the study. 46 were males and 4 were females with age group between 16-60 years. 49 patients had abdominal pain. 26 patients had frequent pain. Maximum patients had moderate pain (23). 15 had Grade-I pain, 23 had Grade-II pain and 8 had Grade-III pain. In the correlation only seven patients showed endoscopic changes with pain. **Conclusion:** A significant number of patients showed different grades for abdominal pain in this study. From the study results it can be concluded that duodenitis is an etiological factor for upper abdominal pain not associated with peptic ulcer. There is a requirement of further studies to evaluate the duodenitis with the

use of endoscopy for better diagnosis of abdominal pain without peptic ulcer.

Keywords: Endoscopy; Ulcer; Abdomen; Duodenitis; Pathogenesis; Abdominal Pain.

Introduction

Endoscopy of the upper digestive tract is a common diagnostic procedure in the diagnosis of gastrointestinal disorders. Duodenitis is an inflammatory condition of the duodenal mucosa [1,2]. Thomson WO has defined duodenitis as a definite clinical syndrome, the diagnosis of which is made on the symptoms of dyspepsia, with a negative double contrast barium meal study, upper gastrointestinal endoscopy [3]. Joffe following upper gastrointestinal endoscopic study has described edema and prominent mucosal folds as an early sign of duodenitis and erythema and friability were experienced in more advanced forms [4]. Another point of dispute is whether duodenitis is a transient stage in the pathogenesis if acute erosion and an acute peptic ulcer [5,6]. Early reports were made based on histopathological examination of duodenum. This will take long time to diagnosis of the stage of diseases [7]. As science advances radiological investigations may play a major role in the diagnosis of duodenitis. The radiological basis of diagnosis of duodenitis was the findings of prominent mucosal folds and nodularity. But the radiological diagnosis of duodenitis is difficult compared to ulcer. Olden days X-ray was used to diagnosis duodenitis. Drawback, being X-ray negative ulcers cannot be ruled out [8,9]

There is a significant change in the diagnosis of duodenitis after invention of endoscopy. It has wide application in the diagnosis of various

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gastrointestinal disorders. Small to major problems of gastrointestinal tract was easily diagnosed in a short time period [10,11]. It is useful to reduce the mortality of the patients due to gastrointestinal diseases. Correct diagnosis can help the clinician to treat in a better way. Endoscopy enables the diagnosis of patients with typical peptic ulcer like symptoms as duodenitis not associated with duodenal ulcer [12]. With this background the present study conducted to evaluate the role of endoscopically confirmed duodenitis not associated with peptic ulcer in the pathogenesis of upper abdominal pain

Materials and Methods

Study Design and Settings

It is a prospective conventional sampling study. This study was conducted in the Department of General Surgery, SUT Medical College, Kerala during the period of Feb 2014-Jan 2015. It was ethically cleared from Institutional Research Committee (IRC) and Institutional Human Ethics Committee (IHEC).

Inclusion Criteria

- Age between 18-60 years
- Males and Females
- Lower abdominal pain

Exclusion Criteria

- Abdominal bleeding
- NSAIDs drug therapy
- Steroid drug therapy
- Recent abdominal surgery
- Patients on dialysis
- Abdominal infection

Procedure

A total of 50 patients were included in the study on the basis of inclusion and exclusion criteria. Both males and females were included in the study. The study procedure was explained in detail to all the patients. Informed consent was obtained from all the patients with age above 18 years. Patients less than 18 years consent was taken from parents. All the patients demographic and clinical data were collected and recorded. The patients were subjected for endoscopy for the evaluation of duodenitis. The patients with pain are graded based on frequency and severity.

Depending on frequency, pain is divided into daily pain (pain felt every day or more than 5 days a week), frequent pain (Pain occurring 3 to 5 days a week) and occasional pain (When frequency is even less than 5 days or patient felt when there is dietary indiscretions). Based on the severity pain is graded as severe pain (Pain which incapacitates the patient and/or forces him to take rest), moderate pain (Pain of lesser intensity which does not incapacitates but subsides with medication) and mild pain (Pain which is more like a nuisance. Dose not incapacitates nor requires medicines for relief). The clinical grading was correlated with endoscopic grading [13-15].

Statistical Analysis

The data was expressed in number and percentage (%). Microsoft excel 2009 was used to calculate the percentage.

Results

Total 50 patients were included in the study. Maximum patients were in the age group between 36-40 years and 8 patients in age group of 16-20 years. 8 had 26-30 years. Less number patients were in the age group 46-50 (2), 51-55 (2) and 56-60 (2) (Table 1).

Table 1: Distribution of patients based on age (Years)

Age (Years)	Number	Percentage (%)
16-20	8	16.00
21-25	7	14.00
26-30	8	16.00
31-35	5	10.00
36-40	10	20.00
41-45	6	12.00
46-50	2	4.00
51-55	2	4.00
56-60	2	4.00
Total	50	100.00

Males (46) were more compared to females (4) (Graph 1). 50-52% patients had abdominal pain. 30-93% had retrosternal burning, 11 had post prandial fullness. 2 patients of each had loss of appetite, malena and hematemesis. Only one patient had recurrent diarrhoea. In this study maximum patients had clinical symptom of abdominal pain (Table 2). 52%

had frequent pain, 16 had daily and 7 had occasional pain. Only 1 had no pain (Table 3). 46% was moderate pain, 34% with severe pain and 18% had mild pain. 2% of patients had no pain (Graph 2).

In endoscopic grading 4 had Grade-I, 15 with Grade-I, 23 with Grade-II and 8 with Grade-III duodenitis (Graph 3).

Table 2: Distribution of patients based on clinical symptoms

Clinical symptoms	Number	Percentage (%)
Abdominal pain	49	50.52
Retrosternal burning	30	30.93
Post prandial fullness	11	11.34
Loss of appetite	2	2.06
Malena	2	2.06
Hematemesis	2	2.06
Recurrent diarrhoea	1	1.03

Table 3: Distribution of patients based on frequency of pain

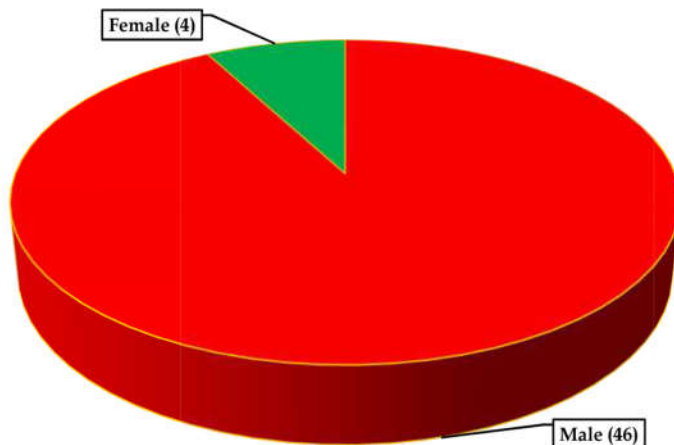
Frequency of pain	Number	Percentage (%)
Occasional	7	14.00
Frequent	26	52.00
Daily	16	32.00
No pain	1	2.00
Total	50	100.00

Table 4: Correlation of endoscopic grading with frequency of pain

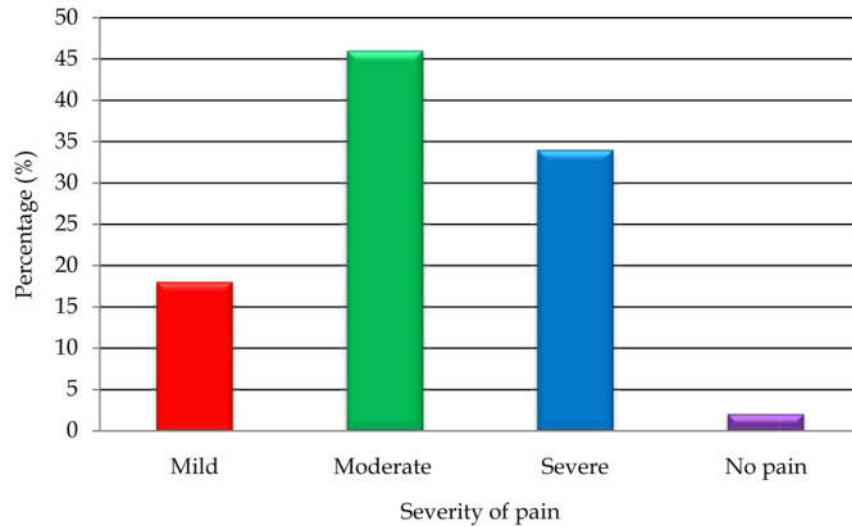
Frequency of pain	Endoscopic grading			
	Grade-0	Grade-I	Grade-II	Grade-III
Occasional	3	3	1	0
Frequent	1	9	13	3
Daily	0	3	8	5
No pain	0	0	0	1
Total	4	15	22	9

Table 5: Correlation of endoscopic grading with severity of pain

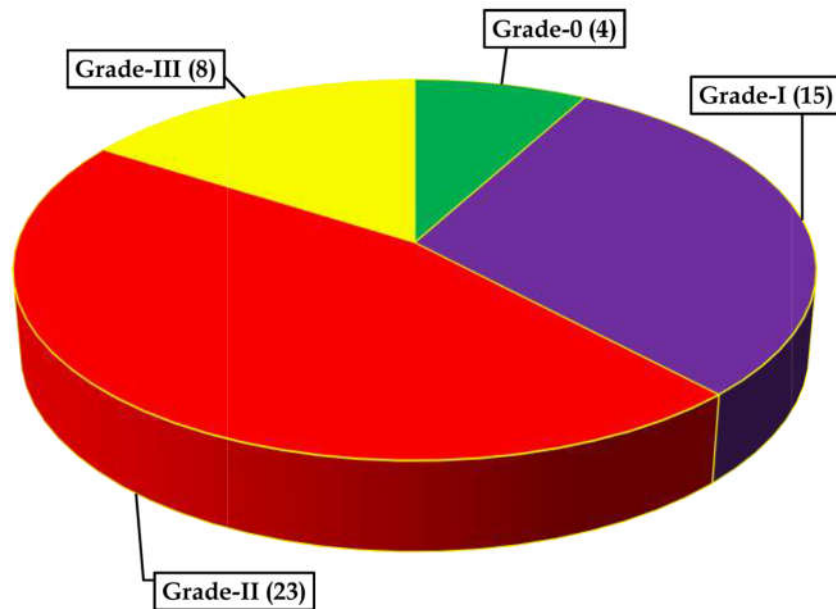
Severity of pain	Endoscopic grading			
	Grade-0	Grade-I	Grade-II	Grade-III
Mild	3	2	3	1
Moderate	1	9	10	3
Severe	0	4	10	3
Total	4	15	22	9



Graph 1: Distribution of patients based on gender



Graph 2: Distribution of patients based on severity of pain



Graph 3: Endoscopic grading of patients of duodenitis

In the correlation of frequency of pain with endoscopic grading 3 had occasional pain in Grade-0 and Grade-I. 13 had Grade-II with frequent pain. 8 had Grade-II with daily pain. 5 had Grade-III with daily pain. In Grade-0 maximum patients (3) had occasional pain. In Grade-I maximum patients (9) had frequent pain. 13 had frequent pain with Grade-II and 5 with Grade-III with daily pain. One patient had Grade-III with no pain (Table 4).

In the correlation of endoscopic grading with severity of pain 10 had Grade-II with moderate and 10 with severe pain. 3 had mild and Grade-0. 9 had Grade-I with moderate pain. 3 of each had Grade-III

with moderate pain and Grade-III with severe pain. 1 had Grade-III with mild pain and 1 had Grade-0 with moderate pain (Table 5). Maximum patients (13) showed Grade-II with frequent pain, maximum number with Grade-II moderate pain (10) and 10 with Grade-II severe pain.

Discussion

Duodenitis is an important clinical entity. It can develop in any age group of the patients. In this study 16-20 years age group also showed duodenitis. Males

are more prone to duodenitis compared to females. Smoking, consumption of alcohol, improper diet, stress and drugs like NSAIDs can cause ulcers. They can have symptoms of pain, burning and dyspepsia. The symptoms can change based on the severity of condition. Nagla et. al study also showed similar percentage of clinical symptoms [16]. Siraji O et. al studied 174 patients for Duodenitis. 51.6% had pain and 13.6% showed dysphagia. In the present study 50.52% showed abdominal pain which was similar to Siraji O study [17]. 52.0% showed frequent pain in the present study Vien XN et. al observations showed similar percentage of patients had frequent pain with gastrointestinal disease [18]. Moses I et.al studied 363 patients for duodenitis and maximum patients showed mild to moderate pain. We studied 50 patients. Maximum number of patients showed moderate pain followed by severe pain [19].

The severity and frequency of pain is depends on the grade of duodenitis. Upper gastrointestinal endoscopy is a very important tool for the diagnosis of gastrointestinal diseases. Usually the diagnosis of alimentary tract disorders can be made out depending on the characteristics of epithelium and other structures [20]. The upper endoscopy is a simple outpatient procedure and it can be used frequently to study the progression of diseases in case of Duodenitis. This is the simple, reliable and accurate method to evaluate Duodenitis with or without associated peptic ulcer. The grade and severity of pain changes based on the grading of of duodenitis. Clinical symptoms and endoscopy are useful in the diagnosis of Duodenitis. With Endoscopy abdominal pain due to peptic ulcer or other diseases can be differentiated. This study results showed preliminary use of endoscopy to confirm Duodenitis not associated with peptic ulcer as pathogenesis of upper abdominal pain.

Conclusion

There is a large number of patients who have typical ulcer like pain but who do not have endoscopic evidence of peptic ulcer. In this study also we observed similar results. More studies are required to evaluate the proper cause for abdominal pain with or without duodenitis in peptic ulcer disease

Conflict of Interest

Nil

Founding

Nil

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