


Research Article

Aetiological Study of Upper Abdominal Pain in Patients Admitted in the Department of Medicine, SSMC and Mitford Hospital, Dhaka, Bangladesh

Haripada Roy¹, AKM Fazlul Kader², Abu Md. Towab³, Monish Saha Roy⁴, Goutom Chandra Bhowmik⁵, Sushanta Barua⁶, Arindam Majumder⁷, Sudip Barua⁸, Rabeya khatoon⁹

Abstract

Introduction: Abdominal pain is an unpleasant experience commonly associated with tissue injury. The sensation of pain represents interplay of pathophysiologic and psychosocial factors. Pathophysiologic determinants of pain include the nature of the stimuli, type of the receptors involve, the organization of the neuroanatomic pathways from the site of injury to the central nervous systems and a complex interaction of modifying influences on the transmission.

Objective: To assess the aetiological study of upper abdominal pain in patients admitted in the department of medicine, SSMC and Mitford hospital, Dhaka, Bangladesh.

Methods: Patients admitted with upper abdominal pain in the medicine units of Medicine Department in SSMC and Mitford Hospital of 6 months from 1st July, 2011 to 31st December, 2011. A total of 100 cases were enrolled in the study. Data were recorded in preformed structured format and were analyzed by computer software SPSS (Statistical Package for social science) and the results are shown in tables & figures.

Results: A total of 5280 patient got admitted during the study period in medicine units. Out of them 3250 were male and 2030 were female patients. Subjects presented with upper abdominal pain were 100 (1.89%) in number in whom 55 were male and 45 were female patients. Age ranged between 18 and 75 years with mean of 41.29 years. Out of 100 cases majority were nonsmoker, forty-five patients were smoker with a male and female ratio 7:2. Peptic ulcer disease topped the list. Thirty-six had peptic ulcer diseases (PUD). Of them 27 cases were male and 9 cases were female. In this study male patients were more in number with male and female ratio 3: 1. Out of 36 cases of peptic ulcer, 28 (77.78%) were detected to have duodenal ulcer and 8 (22.22%) were gastric ulcer. Male and female ratio is duodenal and gastric ulcer was 5: 2 and 7: 1 respectively. The ratio between duodenal and gastric ulcer was 3. 5:1. Non ulcer dyspepsia ranked second in order of frequency (20 cases = 20%). It was more common in females (13 cases = 65%) than in males (7 cases = 35%). Four patients were female and two were male. Two subjects were diagnosed as acute cholecystitis and 2 were female. One male and one female patient were diagnosed as chronic cholecystitis. Two patients were diagnosed on gastric carcinoma proved by histological examination of endoscopically obtained biopsy specimens from the lesion. Two patients were male. In case of IBS, out of 18 patients, 10 patients (55.56%) had colicky abdominal pain. Majority of patient (40%) had burning type of abdominal pain, 17.3%

Affiliation:

¹Junior Consultant (Cardiology), Kotalipara Upazila Health Complex, Kotalipara, Gopalganj, Bangladesh

²Junior Consultant (Cardiology), Belabo Upazila Health Complex, Belabo, Narasingdi, Bangladesh

³Junior Consultant (Cardiology), Lalmonirhat 250 Bed Hospital, Lalmonirhat, Bangladesh

⁴Junior Consultant (Medicine), UHC, Fatikchhari, Chattogram, Bangladesh

⁵Assistant Registrar, (Cardiology) NICVD (National Institute of Cardiovascular Disease), Dhaka, Bangladesh

⁶Assistant Registrar, Department of Cardiology, Dhaka Medical College hospital, Dhaka, Bangladesh

⁷Medical Officer, Out Patients Department, SSMC Mitford Hospital, Dhaka, Bangladesh

⁸Assistant Professor (Medicine), Southern Medical College, East Nasirabad, Kulshi, Chittagong, Bangladesh

⁹Assistant professor, Department of Radiology & Imaging, BIRDEM general hospital and IMC, Dhaka, Bangladesh

*Corresponding author:

Haripada Roy, Junior Consultant (Cardiology), Kotalipara Upazila Health Complex, Kotalipara, Gopalganj, Bangladesh

E-mail: rssconsultancy319@gmail.com

Citation: Haripada Roy, AKM Fazlul Kader, Abu Md. Towab, Monish Saha Roy, Goutom Chandra Bhowmik, Sushanta Barua, Arindam Majumder, Sudip Barua, Rabeya khatoon. Aetiological Study of Upper Abdominal Pain in Patients Admitted in the Department of Medicine, SSMC and Mitford Hospital, Dhaka, Bangladesh. Archives of Internal Medicine Research. 7 (2024): 253-262.

Received: September 26, 2024

Accepted: October 07, 2024

Published: October 22, 2024

of patient had colicky abdominal pain, most of them were patients of IBS (55.56%). Epigastric and / or right hypochondriac pain (66.67%) was more common in NUD. 51%, 22% and 14% patients had epigastric, simultaneous epigastric and right hypochondriac and simultaneous epigastric and periumbilical pain respectively. Majority of patients (66.67%) with IBS developed pain after taking food. Non ulcer dyspeptic patients (70%) developed pain mainly in empty stomach. 37%, 31% and 18% patients had pain in empty stomach, pain after meal and nocturnal pain respectively. 30 cases (83.33%) with PUD, seven cases (38.89%) with IBS and 16 cases (80%) with NUD, there was no radiation of pain. Majority of patient of IBS (44.44%) had radiation of pain to multiple sites.

Conclusion: In conclusion it may be asserted that majority of patients with upper abdominal pain do not have peptic ulcer. Functional gut disorder is common cause of upper abdominal pain. A carefully taken history and its rational interpretation may help diagnosis. The simple means like explanation, reassurance and dietary advices may save a lot of antacids, H₂ blocker and proton pump inhibitors in many cases.

Keywords: Aetiological; Abdominal Pain; tissue injury

Introduction

Abdominal pain is an unpleasant experience commonly associated with tissue injury. The sensation of pain represents interplay of Pathophysiologic and psychosocial factors. Pathophysiologic determinants of pain include the nature of the stimuli, type of the receptors involve, the organization of the neuroanatomic pathways from the site of injury to the central nervous systems and a complex interaction of modifying influences on the transmission, interpretation and reaction to pain message. Psychosocial factors modifying the sensation of pain include personality, ethnic and cultured background and circumstances surrounding the injury. Thus pain represents complex sensation with different manifestation in different individual [1,2]. Abdominal pain is one of the most common symptoms evaluated by physician, gastroenterologists and surgeons. Abdominal pain results from gastrointestinal disease and extra intestinal condition involving the genitourinary tract, abdominal wall, thorax or spine. Visceral pain generally is midline in location and vague in character, while parietal pain is localized and precisely described [3]. Upper abdominal pain can be termed as discomfort in the upper part of the abdomen. The location of the pain within the upper abdomen can be important clue in determining the underlying cause. Pain located in one area of abdomen may be more serious than pain the entire abdomen [4]. Upper abdominal pain may be the major distressing symptoms of

gastrointestinal tract that causes suffering of many people, In our society every physician faces the problem in their day to day practice. Upper abdominal pain sometimes may be presented as dyspepsia. Common causes of upper abdominal pain are peptic ulcer disease, non-ulcer dyspepsia, irritable bowel syndrome, pancreatitis, cholelithiasis, cholecystitis, helminthiasis, intestinal Obstruction, perforation of hollow viscus, some malignancies (stomach and pancreatic and gall bladder malignancy) etc. Moreover, an estimated 15000 deaths per year occur as consequence of complicated peptic ulcer disease. The financial impact of these common disorders has been substantial; with a burden of \$10 billion per year in the United States.⁵ IBS is the commonest functional gastrointestinal disorder. In western population upto 1 in 5 report symptoms consistent with IBS. Upto 40% of the patients seen in specialist gastroenterology clinic will have IBS. The annual cost estimated for IBS in UK, is £ 45.6 million and in the USA is \$ 8 billion.⁶ Acute Pancreatitis accounts for 3% of all cases of abdominal pain admitted to hospital. It affects 2-28 per 10000 of the population and mortality is 10%. In developed countries gallstones are common and occur in 7% of males, 15% of female aged 18-65 years with prevalence of 11%. Gallstones are present in 70-80% of case of carcinoma of the gallbladder. Gastric carcinoma remains the leading cause of cancer death worldwide but marked geographical variation in incidence. Gastric carcinoma is more common in men and the incidence rises sharply after 50 years of age, 50% of gastric carcinoma have ulcer like pain⁷. Although most of the hospitalized patient presented with acute or recurrent upper abdominal pain are considered to be peptic ulcer disease on admission but subsequent investigations show that most of them are not suffering from peptic ulcer disease. In this study an attempt has been made to determine the aetiology of upper abdominal pain, number of patients got admitted with upper abdominal pain, number of endoscopically proved peptic ulcer disease as cause of upper abdominal pain in series of patients of medicine units of SSMC & Mitford Hospital, Dhaka during a period of six months.

Materials and Methods

Study population: Patients admitted with upper abdominal pain in the medicine units of SSMC and Mitford Hospital.

Study Site: Medicine Department of SSMC and Mitford Hospital.

Study period: 6 months 1st July, 2011 to 31st December, 2011.

Sample size and the statistical basis of it: A total of 100 cases will be enrolled in the study. The sample size was calculated by using following statistical formula

$$n = \frac{Z^2 pq}{d_2}$$

n = the desired sample size.

p = the proportion of the target population estimated to have particular characteristic if no reasonable estimation then we use 50% (0.5).

q = (1-p) = (1-0.5) = 0.5

z = 5% level of significance or 95% confidence level, z = 1.96.

d = degree of accuracy or acceptable error usually set as 5% (0.05), But it should not exceed more than 20%. Here d is 10% (0.1) to keep the sample size desired with time

Inclusion and exclusion criteria.

Sample was selected according to inclusion and exclusion criteria.

Inclusion criteria:

- i. Patients age more than 12 years, irrespective of their sex and education.
- ii. Patient with upper abdominal pain.

Exclusion Criteria:

- i. Patient aged 12 years and below.
- ii. Patient unwilling to give informed consent for inclusion criteria.

After sampling Patients were undergone thorough

Clinical assessments. All Patients were performed upper gastrointestinal endoscopy and ultrasonography of whole abdomen. Selective investigations were done is selective patients.

Data analysis

Data were recorded in preformed structured format and were analyzed by computer software SPSS (Statistical Package for social science) and the results are shown in tables & figures.

Results

A total of 5280 patient got admitted during the study period in medicine units. Out of them 3250 were male and 2030 were female patients. Subjects presented with upper abdominal pain were 100 (1.89%) in number in whom 55 were male and 45 were female patients. Male subjects were higher in number among the patients present with upper abdominal pain (m/f= 55/45) (Table-I and III). Their age ranged between 18 and 75 years with mean of 41.29 years. (Table-IV) (Out of 100 cases majority were nonsmoker, forty-five patients were smoker with a male and female ratio 7:2. Among the male (55 cases) patients, 20 were businessmen, 18 were day labourers, 3 were service holder, 11 were farmer and 3 were students by professions. Among the female (45 cases) patient majority were house wives (41 cases), 3 were service holders and 1 was student by profession.

Table-1: Demographic characteristics of the Patients (N = 100)

Variable	N	%
Admitted during the study period.	5280	-
Patient getting admitted during the study period Male: Female	3250 (61.55%)	2030 (38.45%)
Presented with upper abdominal pain	100 (1.89%)	-1.89%
Number of patient getting admitted with upper abdominal pain Male: Female	55	55%
	45	45%
Mean age in years	41.29±13.79 years	
Organic diseases	62	
Functional including NUD and IBS	38	
Smoker		
Male	35	35%
Female	10	10%
Profession Businessman	20	-
Day-Labour	18	-
Service holder	3	3
Farmer	11	-
Student		
Male	3	
Female	1	
House wife	-	41

Table 2: Age Distribution: Years (Range between 18 yrs and 75 yrs., mean 41.29)

Age group (years)	PUD (N = 36)	IBS n= 18	NUD n=20	AP n = 6	CP n = 4	Chle Lithiasis n = 6	Acut chole cystitis n=2	Chronic cholecystitis n = 2	GC n = 2	Helmin thiasis n = 2	Liver abscess n = 2
Dec-19	-	1	2	-	-	-	-	-	-	-	-
20-29	8	-	2	1	1	3	-	-	-	1	-
30-39	7	7	7	1	1	2	-	-	-	-	-
40-49	8	10	2	2	2	1	-	2	-	-	1
50-59	5	-	5	1	-	-	-	-	-	-	1
≥60	8	-	2	1	-	-	2	-	2	1	-

Several quite different diseases could be distinguished is subject presented with upper abdominal pain (Table-2). Thirty-eight subjects had no organic diseases, with a male and female ratio were (M:F = 14: 24 = 7: 12) 1: 1.71. Peptic ulcer disease topped the list. Thirty-six had peptic ulcer diseases (PUD). Of them 27 cases were male and 9 cases were female. In this study male patients were more in number with male and female ratio was 3: 1.

Table 3: Causes of Upper Abdominal Pain (N = 100)

Diseases		Number of patients 36
1. Peptic ulcer diseases	DU	28
	GU	8
2. Non ulcer dyspepsia		20
3. Irritable bowel Syndrom		18
4. Acute pancreatitis		6
5. Chronic pancreatitis		4
6. Cholelithiasis		6
7. Acute cholecystitis		2
8. Chronic cholecystitis		2
9. Gastric cancer		2
10. Liver abscess		2
11. Helminthiasis		2

Table 4: Peptic Ulcer Diseases (Duodenal ulcer) (N = 36)

	Duodenal ulcer
Number of patients	28%
Mean age (years)	40.04 ± 13.6
Sex Ratio (M:F)	2.5:1
Number of smoker	15 (53.57%)
Positive family history	16 (57.14%)

Table 5: Peptic Ulcer Diseases (Gastric ulcer) (N = 36)

	Gastric ulcer
Number of patients	8
Mean age (years)	52.06 ± 13.15
Sex Ratio (M:F)	07:01
Number of smoker	5 (62.5%)
Positive family history	2 (25%)

Out of 36 cases of peptic ulcer, 28 (77.78%) were detected to have duodenal ulcer and 8 (22.22%) were gastric ulcer. Male and female ratio in duodenal and gastric ulcer was 5: 2 and 7: 1 respectively (Table 4, 5). The ratio between duodenal and gastric ulcer was 3. 5:1.

Table 6: Irritable Bowel Syndrome (N = 18)

Irritable bowel syndrome	Data
Total number of patients	18
Mean age in years	37.38 ± 7.8
Male and female ratio (M-F) 7: 11	01:01.6
Predominantly constipating type	11 (61.11%)
Diarrhoea alternating with constipation	4 (22.22%)
Predominantly diarrhoeal type	3 (16.66%)

Table 7: Patient Admitted With Non-Ulcer Dyspepsia (N = 20)

Non ulcer dyspepsia	Data
Total number of patients	20
Mean gage in years	39.35 ± 12.88
Male and Female ratio (M:F = 7:13)	01:01.9
Ulcer like symptoms (Moynihan's)	19 (95%)
Dysmotility like dyspepsia	1 (5%)

Non ulcer dyspepsia ranked second in order of frequency (20 cases = 20%). It was more common in females (13 cases = 65%) then in males (7 cases = 35%). Male and female ratio was 1: 1.86. Nineteen patients (95%) had ulcer like symptoms and one (5%) dysmotility like dyspsasia. Irritable bowel syndrome was third (18 cases) common cause of upper abdeominal pain. It was more common in females (11 cases = 61.11%) than in females (7 cases = 38.89%) with a male and female ratio 1 1.51 predominantly constipating type was more common 11 cases (61.11%) than predominantly diarrhoeal firm 3cases (16.66%) (Table-6,7). 4 cases (22.22%) had diarrheea alternating with constipation. Two subjects with upper abdominal pain was proved helminthiasis and were relieved by administration of antihelminthic. Ova of Mascaras lumbricoides were found in their stools. Six subjects had cholelithiasis. Four patients were female

and two were male. Two subjects were diagnosed as acute cholecystitis and 2 were female. One male and one female patient were diagnosed as chronic cholecystitis. Two patients were diagnosed as gastric carcinoma proved by histological examination of endoscopically obtained biopsy specimens from the lesion. Two patients were male. All of them were aged patients (>50 years) and presented with features of gastric outlet obstruction and severe anaemia along with upper abdominal pain. Two patients had amoebic liver abscess one patient was male and one female. All of them had past history of amoebic dysentery. Chronic pancreatitis was diagnosed in 4 subjects of the study. 3 patients were male and one was female. All of them had chronic calcific pancreatitis. One male patient had also diabetes mellitus. Six patients had acute pancreatitis. Four patients were male and two patients were female. Three male patients had history of chronic alcohol intake.

Table 8 shows presenting features of peptic ulcer diseases, majority of patients with duodenal ulcer had heart burn,

epigastric tenderness and food aggravated their pain.

Table 9 shows different characteristics of pain. Burning type of pain was present in 22 patients (61.11%) in peptic ulcer and in case of NUD, out of 22 patients, 13 (65%) patients presented with burning pain. In case of IBS, out of 18 patients 10 patients (55.56%) had colicky abdominal pain. Majority of patients (40%) had burning type of abdominal pain, 17.3% of patients had colicky abdominal pain, most of them were patients of IBS (55.56%).

Table 10 shows the main sites of pain in different diseases causing upper abdominal pain. Epigastric pain 25 cases (69.44%) were more common in PUD. In case of IBS dominant site of pain was epigastric and per umbilical (16.67%). Epigastric and / or right hypochondriac pain (66.67%) was more common in NUD. 51%, 22% and 14% patients had epigastric, simultaneous epigastric and right hypochondriac and simultaneous epigastric and periumbilical pain respectively.

Table 8: Presentation of PUD (N=36)

	DU (N= 28)	GU (n = 8)
Upper abdominal pain	28 (100%)	8 (100%)
Heart burn	20 (71.43%)	2 (25%)
Nausea/vomiting	10 (35.71%)	8 (100%)
History of haematemesis and/or melaena	6 (21.43%)	3 (37.5%)
Epigastric tenderness	24(85.71%)	7 (87.5%)
Relief by food and antacid	18 (94.29%)	1 (12.5%)
Aggravation by food	2 (7.14%)	5 (62.5%)
Periodicity	25 (89.29%)	-
Nocturnal pain	15 (53.56%)	-
H/O taking NSAIDS	7 (25%)	3 (37.5%)

Table 9: Character of Pain (N=100)

Character of pain	PUD (N=36)	IBS (n=18)	NUD (N=20)	Helmin (thiasis n=2)	Cholelithiasis (n=6)	GC (n=2)	LA (n=2)	CP (n=4)	AP (n=6)	Acute Cholecystitis (n= 2)	Chronic Cholecystitis (n = 2)
Burning	22 (61.11)		13 (65%)		2 (33.33%)	1 (50%)				1 (50%)	1(50%)
Colicky		10(55.56%)		1(50)	2(33.33%)					1 (50%)	
Constant						1 (50%)		1(25 %)	2(33.33%)		
Dull aching	2(5.56%)	2 (11.11%)	4 (20%)	1 (50%)	2(33.33%)		1 (50%)	2 (50%)	2 (33.33%)		1 (50%)
Cramping		4 (22.22%)									
Nocturnal pain	15(41.67%)	2(11.11%)									
Periodicity	25(69.44%)										
Higher like	3 (8.33%)										
Gnawing			3 (15%)				1 (50%)	1 (25%)	2(33.33%)		

GC=Gastric carcinoma, LA=Liver abscess, CP=Chronic pancreatitis, AP = Acute pancreatitis

Citation: Haripada Roy, AKM Fazlul Kader, Abu Md. Towab, Monish Saha Roy, Goutom Chandra Bhowmik, Sushanta Barua, Arindam Majumder, Sudip Barua, Rabeya khaton. Aetiological Study of Upper Abdominal Pain in Patients Admitted in the Department of Medicine, SSMC and Mitford Hospital, Dhaka, Bangladesh. Archives of Internal Medicine Research. 7 (2024): 253-262.

Table 10: Site of pain (N= 100)

Site	PUD (N = 36)	IBS (n=18)	NUD (N = 20)	Helminthiasis (n = 2)	Cholelithiasis (n=6)	GC (n=2)	LA (n=2)	CP (n=4)	AP (n=6)	Acute Cholecystitis (n=2)	Chronic Cholecystitis (n=2)
Epigastric	25 (69.44%)	4(22.22%)	10(50%)		1(16.67%)	1(50%)	1(50%)	3(75%)	4(66.67%)	1 (50%)	1(50%)
Right hypo chondriac	5 (13.10%)		2 (10%)		1(16.67%)				1(16.67%)	1 (50%)	1 (50%)
Left hypo chondriac			1 (5%)								
Epigastric+Right ypochondriac	6 (16.67%)	1 (5.56 %)	6(16.67%)	1(50%)	4(16.67%)	1(50%)	1 (50%)	1(25%)	1(16.67%)		
Epigastic+ Periumbilican		12(66.67%)	1 (5%)	1(5%)							
Generalised		1 (5.56%)									
Other											

Table 11: Time of onset of pain (N = 100)

Time	PUD (N=36)	IBS (n=18)	NUD (N = 20)	Helminthiasis (n=2)	Cholelithiasis (n=6)	GC (n=2)	LA (n=2)	CP (n=4)	AP (n=6)	Acute Cholecystitis (n=2)	Chronic Cholecystitis (n=2)
Empty stomach	20 (55.56%)	1 (5.56%)	14(70%)		2 (33.33%)						
After meal	7 (19.44%)	12(66.67%)	1 (5%)		3 (50%)	2(100%)		2 (50%)	2 (50%)	1(50%)	1 (50%)
Nocturnal	15 (44.67%)	3 (16.67%)									
Throughout the day	1 (2.79%)	1 (5.56%)						1 (25%)	1 (16.67%)		
No specific time of onset	5 (13.89%)	1 (5.56%)	5 (25%)	2(100%)	1 (16.67%)		2(100%)	1 (25%)	2 (33.33%)	1(50%)	1 (50%)

AC = Acute choleystitis; CC = Chronic choleystitis

Table 11 Shows time of onset of upper abdominal pain in different disease. Nocturnal pain was predominantly associated with PUD (44.67%). In PUD majority of patient (55.56%) in empty stomach. Majority of patients (66.67%) with IBS developed pain after taking food. Non ulcer dyspeptic patients (70%) developed pain mainly in empty

stomach. 37%, 31% and 18% patients had pain in empty stomach, pan after meal and nocturnal pain respectively.

Table 12 shows the effects of some factors on relieving pain. Relief of pain after taking food antacid was significant in case of PUD and NUD. Bowel movement relieved pain in all cases of IBS and majority of patients with helminthiasis.

Table 12: Relieve of pain (N = 100)

Relief of pain	PUD (N=36)	IBS (n=18)	NUD (N = 20)	Helminthiasis (n=2)	Cholelithiasis (n=6)	GC (n=2)	LA (n=2)	CP (n=4)	AP (n=6)	Acute Cholecystitis (n=2)	Chronic Cholecystitis (n=2)
Food	23 (-63.89%)		16 (-80%)								
Antacid	31 (-86.11%)	3 (-16.67%)	18 (-90%)		2 (-33.33%)	1 (-50%)				1 (-50%)	
Spontaneous	5 (-13.89%)	16 (-88.89%)	16 (-80%)	1 (-50%)	3 (-50%)	1 (-50%)	1 (-50%)				
Vomiting	3 (-8.33%)	1 (-5.56%)	4 (-20%)	1 (50%)	1 (-16.67%)	1 (-50%)		2 (-50%)	4 (-66.67%)	1 (-50%)	1 (-50%)
Bowel movement	1 (-2.79%)	18 (-100%)		2 (-100%)							1 (-50%)
Change of posture / Decubitus								2 (-50%)	2 (-33.33%)		

Table 13: Sites of Abdominal tenderness (N= 100)

Sites	PUD (N=36)	IBS (n=18)	NUD (N= 20)	Helminthiasis (n=2)	Cholelithiasis (n=6)	GC (n= 2)	LA (n=2)	CP (n=4)	AP (n=6)	Acute Cholecystitis (n=2)	ChroniCholecystitis (n=2)
Epigastric	25 (-69.44%)	3 (-16.67%)	5 (-25%)		1 (-16.67%)	1 (-50%)		3 (-75%)	4 (-66.67%)	1 (-50)	1 (-50%)
Right hypochondrium	5 (13.89%)		1 (-5%)		1 (-16.67%)				1 (-16.67%)	1 (-50%)	1 (-50%)
Left hypo chondrum											
Umbilical		1 (-5.56%)	1 (-5%)	1 (-50%)							
Epigastric + Right hypochondrium	6 (-16.67%)		3 (-15%)		4 (-66.67%)	1 (-50%)	2 (-100%)	1 (-25%)	1 (-16.67%)		
Diffuse Tenderness		2 (-11.11%)	1 (-5%)								
No Tenderness		12 (-66.67%)	9 (-45%)								

Table-13 shows the sites of tenderness in patients presented with upper abdominal pain. Most of the patient (69.44%) of PUD had epigastric tenderness. Majority of patient with IBS (66.67%) and NUD (45%) had no significant abdominal tenderness.

Table 14: Radiation of pain (N = 100)

Radiation	PUD (N=36)	IBS (n=18)	NUD (N=20)	Helminthiasis (n=2)	Cholelithiasis (n=6)	GC (n= 2)	LA (n= 2)	CP (n=4)	AP (n=6)	Acute Cholecystitis (n=2)	ChroniCholecystitis (n=2)
No radiation	30 (-88.33%)	7 (-38.89%)	16 (-80%)		1 (-6.67%)	1 (50%)	1 (-50%)	1 (-25%)		1 (-50%)	1 (-50%)
To the sternum (upward to chest)	3 (-8.33%)						1 (-50%)				
Back (Inter scapular region)	3 (-8.33%)	1 (-5.56%)			1 (-16.67%)	1 (-50%)		3 (-75%)	6 (-100%)		
To multiple sites		8 (-44.44%)	4 (-20%)								
Right shoulder					4 (-66.67%)					1 (-50%)	1 (-50%)

30 cases (83.33%) with PUD, seven cases (38.89%) with IBS and 16 cases (80%) with NUD, there was no radiation of pain. Majority of patient of IBS (44.44%) had radiation of pain to multiple sites.

Discussion

This study was undertaken to evaluate the aetiological pattern of upper abdominal pain in patients admitted in medicine units, to find out different etiological pattern of upper abdominal pain, to find out the number of patients getting admitted with upper abdominal pain in medicine units of SSMC & Mitford hospital, to identify the number of endoscopically proved peptic ulcer disease as a cause of upper abdominal pain. Selection of patients for the study were made randomly on the basis of upper abdominal pain having age more than 12 years irrespective of their sex and education, and patient willing to participate in this study. In

this prospective study, some investigations are done routinely for all patients, particularly emphasizing on endoscopy of upper gastrointestinal tract and ultra-sonogram of the whole abdomen and some selective investigation were done for the selective patients. Only the patients having endoscopically confirmed ulcer in the stomach or duodenum were labelled as PUD. In the present series 38% of subjects had no organic disease with a male and female ratio of 1:1.71% Among the patients getting admitted in medicine units of SSMC and Mitford hospital, 1.89% patients were presented with upper abdominal pain in whom 55% were male and 45% were female. Quite a good number of diseases could be diagnosed in subjects presented with upper abdominal pain. Peptic ulcer

disease topped of the list. This was also the commonest organic case (36%), it was more prevalent in males with male and female ratio of 3:1 [8]. Among the patients with PUD, 77.78% had duodenal ulcer and 22.22% had gastric ulcer. Male and female ratio in cases of duodenal and gastric ulcer were 12.5:1 and 7:1 respectively;. It appeared that the diagnosis of PUD may be reasonably excluded when periodicity, relief of pain by food or antacids, pointing sign on epigastric tenderness were absent. However, they may occur in patient without PUD (low specificity). Aggravation of pain by the intake of food was more common, as reported by other workers [9,10,11]. It appears that positive diagnosis of PUD cannot be made by the present of individual symptoms. Sensitivity of pointing sign and epigastric tenderness is low because both can be present in PUD, IBS, NUD, a fact that indicating that they are of little value in distinguishing among these diseases. The mean age of the patients was 40.04 years and 52.06 years in case of duodenal ulcer and gastric ulcer respectively. This age incidence correlates with common age of peptic ulcer disease as shown by various workers [12]. Sheppard et al [13]. In 1987 showed higher age incidence in western people. The ratio between duodenal ulcer and gastric ulcer was 3.5:1 which is higher than western world. In United Kingdom it was 2.3:1. In Indian population it was higher 12.13:1 [14,15]. The much lower ratio in this series may possibly be explained by the correct localization of the ulcer after recent advancement of diagnostic technique that is by direct visualisation of the ulcer point through a fiber optic endoscope. In this series, NUD was common cause after PUD, 20% subject had NUD with male and female ratio of 1:1.86. NUD is at least twice/as common as PUD [16]. But in the present series it ranked second in order of frequency after PUD. This discrepancy may probably be explained by the fact that most patients of upper abdominal pain (days peptic symptoms) do not get admitted in hospital but consult with local doctors or treated themselves by self-medication. The mean age of presentation was 39.55 years which is higher than usual presentation of NUD according to most workers [17]. Female predominance in incidence in this series is consistent with other studies. Irritable bowel syndrome ranked third in order of frequency (18%). IBS was more common in female with male and female ratio 1: 1.57. Predominantly constipating type was more common (61.11%). Among the non-organic causes of upper abdominal pain IBS is the second of the list representing (18%) in the western societies where IBS is the commonest gastrointestinal syndrome [18,19,20]. IBS patients also complained of nocturnal pain [21, 22]. Mean age of presentation of IBS is 37.38 years. It is consistent with the usual age of presentation of IBS in studies of different workers [23]. IBS was common in young female patients [24]. Helminthiasis was found to be a cause of upper abdominal pain 2% had helminthiasis. Helminthiasis is considered to be a common cause of upper

abdominal pain in Africa [25]. Pancreatitis is very important cause of upper abdominal pain. In this series 6% were acute Pancreatitis and 4% were chronic Pancreatitis. This incidence is higher than previous incidences of western country [26]. Both acute and chronic Pancreatitis is more common in male with male female ratio of 2:1 and 3:1 respectively. This is can be explained by increased incidence of alcohol misuse. Cholelithiasis is another important cause of upper abdominal pain. In this series this was 6% with a male and female ratio 1: 2. In this series, this data are lower than developed country where the overall incidence is 11% [27]. In this series some other causes of upper abdominal pain were identified including gastric carcinoma (2%), liver abscess (2%), acute cholecystitis (2%) chronic cholecystitis (2%). PUD is the most common organic cause of recurrent dyspeptic symptoms is many countries [28,29]. Most patient presenting with the symptom suggestive of peptic ulcer could be correctly diagnosed solely on clinical basis was emphasized by Moynihan [30,31]. In this series 36% patient was endoscopically proved peptic ulcer disease. This finding are consistent with those of other workers [32, 33,34]. In this analysis of 2000 unselected Gastroenterology out patients in frenchey hospital, Bristol 47.5% had no organic disease. Peptic ulcer disease topped the list of organic disorder and represented 9.9% of all patients. Next in order were gastroesophageal reflex disorder (GERD), Inflammatory bowel syndrome topped the list of functional disorder representing 27.8% of all patients followed by non-ulcer dyspepsia (3.05%). In a study of 248 patients with upper abdominal dyspeptic symptoms but without peptic ulcer 75 (30%) had IBS, 71 (29%), GERD, 63 (25%) had IBS along with GERD, 14 (6%) had gallstones and 25 (10%) had aerophagy. Upper abdominal pain has been reported in substantial proportion of IBS patients by several workers [35,36,37]. Thus IBS seem to be a common cause of upper abdominal symptoms. Majority of patients in this series had burning type of abdominal pain (40%) [38]. 61.11% of PUD patients and 65% of NUD patients had burning type of abdominal pain [39]. Colicky abdominal pain occurred in 14% of patients; most of them (10%) had IBS. Upper abdominal pain localised to epigastrium were present in 51% of patients and most of them (25%) had PUD [40]. 10% patients presented with epigastric pain had NUD [41]. Simultaneous epigastric and right hypochondriac pain occurred in 22% of patients and 14% of patients had periumblical pain. Most of them (12%) had IBS. 69.44% of PUD patients had epigastric pain, 66.67% of patients with IBS had periumblical pain and 50% of NUD patients had epigastric pain. Nocturnal pain was predominantly associated with PUD (41.67%). It was also experienced by 16.67% of patients with IBS. Majority of patients with IBS (66.67%) developed pain after taking food .55.56% of PUD patients developed pain in empty stomach. 37%, 32% and 18% patients

had pain in empty stomach, pain after meal and nocturnal pain respectively. Food relative pain is 63.89% and 80% patients with PUD and NUD respectively. Pain subsided after taking antacids in 86.11% and 90% patients with PUD and NUD respectively. Bowel movement relieved pain in all patients of IBS [42]. Food aggravated pain in 88.89% of patients with IBS and 100% patients of gastric carcinoma. It also aggravated pain within 50%, 50% and 19.44% patients with Cholelithiasis, chronic pancreatitis and PUD respectively. Most of the patients (69.44%) of peptic ulcer disease had epigastric tenderness. 66.67% and 45% of patients with IBS and NUD respectively had no abdominal tenderness [43,44,45]. In PUD patients, all of them had upper abdominal pain and 61.11% had heart burn, 25% had history of hematemesis and/or melaena, 69.44% had epigastric tenderness 55.56% had positive pointing sign, 69.44% had periodicity, 41.67% had nocturnal pain. Pointing sign was also positive in 44.44% and 25% of patients with IBS and NUD.

Conclusion

An attempt has been made to evaluate the cause of the patients with upper abdominal pain of various duration, concrete conclusion could not be made after reviewing such as small number of cases as they are not the representative of the whole population of the country. Though there is some variation of age and sex incidence compared with western studies, the result in some instances, e.g symptomatology and physical signs, correlates with their results. There can be no doubt that whatever the mode of presentation, if can be diagnosed both clinically and by investigation then the correct management of cause will definitely ameliorate the condition of the patient. In conclusion it may be asserted that majority of patients with upper abdominal pain do not have peptic ulcer. Functional gut disorder is common causes of upper abdominal pain. A carefully taken history and its rationed interpretation may help diagnosis. The simple means like explanation, reassurance and dietary advices may save a lot of antacids, H₂ blocker and proton pump inhibitors in many cases.

References

- Melzack R, Torgerson WS, on the language of pain. *Anesthesiology* 34 (1971): 50.
- Melzack R. Wall PD: Pain mechanisms: A new theory science. 150 (1965): 971-979
- William L. Hosier, Chug Owyang, Harrison's Principles of Internal Medicine 284 (2008): 1832-1833.
- Stephen J. Schueler, MD, John H. Beckett, MD; D. Scott getting, MD; Upper abdominal pain overview; No. 23 (2010).
- John Del Valle, Harrison's Principles of internal Medicine 284 (2008): 1832-1833.
- PD Faircolough and DBA silk, Kumar and clark's clinical medicine.
- K.R. Palmer, I.D Penman, J.D Collier, G. webster, Davidson's principles and practice of medicine 22; 876-877, 888-889, 23 (2010): 980-981.
- Walkin son, Peptic ulcer incidence in sex (1960).
- Talley NJ, Phillips SF, Melton LJ, et al. A Patient Questionnaire to Identify Bowel Disease, *Ann Int. Med* 93 (1981): 67-64.
- Talley NJ, Phillips SF, Bruce B, et al. Relation Among Personality and Symptoms in non-ulcer dyspepsia and the Irritable Bowel Syndrome *Gastroenterology* 99 (1990): 327-333.
- Talley NJ, Phillips SF, Melton J, et al. Diagnostic value of the Manning criteria in irritable bowel syndrome. *Gut* 31 (1990): 77-81.
- Edwards, F.C. and Coghill, N. F. Clinical manifestations in patients with chronic atrophic gastritis, gastric ulcer, and duodenal ulcer. *Quarterly, J of Med.* 37 (1963): 337-360.
- Sheppard MG, Holmes GKT, Cockel R. Clinical picture of peptic ulcer diagnosed endoscopically. *Gut* 18 (1977): 524.
- Tovey, F. Peptic ulcer in India and Bangladesh. *Gut.* 20 (1979): 329-347.
- Malhotra, SL. Peptic ulcer in India and its aetiology: *Gut,* 5 (1973): 555.
- Talley NJ. Phillips SF. Non-ulcer dyspepsia: potential causes and pathophysiology. *Ann of Internal Med* 108 (1988): 865-879.
- Hausken T. Berstad A. Wide gastric antrum in patients with non-ulcer dyspepsia. Effects of cisapnde. *Scand J Gastroenterol* (1992): 305-280-2.
- Harvey RF, Salih SY, Read AE. Organic and functional disorders in 2000 Gastroenterology outpatients. *Lancet Marl* 9 (1983): 632-634.
- Mollman KM, Bonnevie O, Gudmand-Hoyer E, Wulff MR. Nosography of X-ray negative dyspepsia. *Scand J Gastroenterol* 11 (1976): 193-197.
- Moriarty KJ, Dawson AM. Functional abdominal pain; further evidence that whole gut is affected. *Br. Med J (Dlin Res)* 284 (1982): 1670-1672.
- Islam M Nazrul. Clinical picture of endoscopically proven

- peptic ulcer in Bangladesh. *Bang Med J* 10 (1982):134.
22. Talley NJ, Phillips SF, Melton LJ, Wiltgen C, Zinsmeister AR. A Patient Questionnaire to Identify Bowel Disease, *Ann Int. Med Ill* (1981): 67-74.
 23. Manning AP, Thompson WG, Heaton KW, Morris AF. Towards positive diagnosis of the irritable bowel. *Br Med J* 2 (1978): 653- 654.
 24. Swarbrick ET, Hegarty JE, Bat L, Williams CB, Dawson AM. Site of pain from irritable bowel. *Lancet* 2 (1980): 443-446.
 25. Holcombe C. Aetiology and management of dyspepsia in Africa. *Tropical Doctor* 21 (1991): 107-112.
 26. K.R.Palmer, ID. Panman, Davvidson's principals and practice of medicine 22 (2010): 888-889.
 27. J.D Collier, G. Webster, Davidson, principal of practice of medicine 23 (2010): 977-978.
 28. James LA, George NS, John FM, Eric JS. Diagnosis of peptic ulcer. In: Bocus HL (editor), *Gastroenterology*, 4th ed. Philadelphia: W. B. Saunders (1985): 1060-1115.
 29. HL. Clinical and diagnostic aspects of uncomplicated peptic ulcer. In Bocus, HL. ed, *Gastroenterology*, Philadelphia, W.B. Saunders (1976): 619-647.
 30. MoynihanBGA. Duodenal ulcer. Philadelphia, Saunders (1912).
 31. Moynihan EGA. On duodenal ulcer: with notes of 52 operations *Lancet* 1 (1905): 340.
 32. Rottar JI. Gastric and duodenal ulcer is each may different diseases. *DiagDisSci* 26 (1981):154.
 33. Tarpila S, SamloffJM, Pikkarainein, et a!, Endoscopic and clinical findings in first degree relatives of duodenal ulcer patients and control subjects. *Scand J Gastroenterol* 78 (1982): 1147.
 34. Talley NJ, Me Neil D, Hayden A, et al. Prognosis of chronic unexplained dyspepsia. A prospective study of potential predictor variables in patients with endoscopically diagnosed non-ulcer dyspepsia. *Gastroenterology* 92 (1987): 1060.
 35. Islam M Nazrul. Clinical picture of endoscopically proven peptic ulcer in Bangladesh. *Bang Med J* 10 (1982): 134.
 36. Talley NJ, Phillips SF, Bruce B, Twomey CK, Zinsmeister AH, Melton LJ. Relation Among Personality and Symptoms in non-ulcer dyspepsia and the Irritable Bowel Syndrome *Gastroenterology* 1990; 99:327-33.
 37. Talley NJ, Phillips SF, Melton LJ, Wiltgen C, Zinsmeister AR. A Patient Questionnaire to Identify Bowel Disease, *Ann Int. Med Ill* (1981): 67-64.
 38. Khosla, AM. Peptic ulcer in India. *Asian Med J* 24(1981): 809.
 39. Bates S. Sjoden PO, Fellinus J, Nyryn O_j31ocked and non-blocked acid secretion and reported pain in ulcer, nor ulcer dyspepsia, and normal subjects, *Gastroenterology* 97 (1989): 376.
 40. Islam M Nazrul. Clinical picture of endoscopically proven peptic ulcer in Bangladesh. *Bang Med J* 10 (1982):134.
 41. Jorgensen LS, Banlokke L, Wamberg P. Non-ulcer dyspepsia, Aspects of pain. *Scand J Gastroenterol* 20 (1985): 46.
 42. Khosla, AM. Peptic ulcer in India. *Asian Med J* 24 (1981): 809.
 43. Bates S. Sjoden PO, Fellinus J, Nyryn O_j31ocked and non-blocked acid secretion and reported pain in ulcer, nor ulcer dyspepsia, and normal subjects, *Gastroenterology* 97 (1989): 376.
 44. Islam M Nazrul. Clinical picture of endoscopically proven peptic ulcer in Bangladesh. *Bang Med J* 10 (1982):134.
 45. Jorgensen LS, Banlokke L, Wamberg P. Non-ulcer dyspepsia, Aspects of pain. *Scand J Gastroenterol* 20 (1985): 46.