



## GASTRIC PATHOLOGY; FREQUENCY AND HISTOPATHOLOGICAL TYPE OF GASTRIC PATHOLOGY IN PATIENT PRESENTING WITH EPIGASTRIC PAIN

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**ABSTRACT... Objectives:** To determine the frequency & histopathological type of gastric pathology in individuals presenting with epigastric pain. **Period:** Six months from July to Dec 2017. **Study Design:** Cross sectional study. **Setting:** Department of Gastroenterology, Liaquat National Hospital Institute for Postgraduate Medical Studies and Health Sciences, Karachi. **Patients and Methods:** The total of 333 patients had history of epigastric pain were included in this study. The specimen for mucosal biopsy was taken during endoscopy and sent to the clinical laboratory for histopathology examination for the classification. All the information was entered and saved on the annexed / proforma. **Results:** The mean  $\pm$ SD of age for all the patients was  $41.31 \pm 7.89$  years. Frequency of gastric pathology in patient presenting with epigastric pain was 51.35% (171/333) cases. There were 171 histopathological diagnoses, non-Noeplastic lesion was confirmed in 99.42% (170/177) and one case had Noeplastic lesion. Regarding the type of gastric pathology, 25.73 % (44/171) had gastric ulcer, 48.54 (83/171) was H. pylori gastric and 25.15% (43/171) had chronic gastritis. **Conclusion:** The study frequency of gastric pathology in patient presenting with epigastric pain was high.

**Key words:** Upper Gastrointestinal Tract, Epigastric Lesion, Endoscopic Biopsy.

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## INTRODUCTION

The gastrointestinal disturbances are the common issues presenting in daily clinical practice with marked mortality and morbidity while the endoscopy and biopsy a common clinical procedure performed to exclude various pathological lesion in the hospital settings.<sup>1,2</sup> The upper gastrointestinal biopsy plays a major role in evaluating and diagnosing of early neoplastic lesions and give opportunity for cure and possible treatment options.<sup>3</sup> The various indications for upper GI endoscopic biopsy includes odynophagia, dyspepsia, peptic ulcer disease, Barrett esophagus and Gastroesophageal reflux disease (GERD).<sup>2</sup> Study conducted in India shown 6.2%, 84% and 2.6% proportions for disorders of oesophagus, stomach and duodenum, 5.6% patients had unremarkable histologically and one patients was inadequate for opinion.<sup>4</sup> The gastritis 76% reported to being the most common inflammatory lesion on histopathological evaluation.<sup>5</sup> Other lesions diagnosed were

non-specific as Barrett oesophagus 1.5%, oesophagitis 1.54%, gastric ulcer 3.5%, GERD 1.7%, and duodenitis 3.1%.<sup>6</sup> Out of 192 biopsies, 6.25% cases were malignant lesions 4.69% cases of adenocarcinoma stomach, 01 MALToma, 01 adenocarcinomaesophagus and 01 adenosquamous carcinoma oesophagus.<sup>2</sup> The endoscopy performed for diagnosis as well as determining the extension of the disease, monitoring treatment course, treatment response and detection of early complications.<sup>4,6</sup> In this regard the indications of biopsy expands and covers wide range of pathological conditions.<sup>7,8</sup> Majority of the individuals had clinical suspicious for GERD or GI discomfort but endoscopic findings are unremarkable and non specific and labeled as endoscopic negative GERD.<sup>9</sup> In those individuals the histopathology and biopsy provides the diagnosis in the absence of gross endoscopic findings.<sup>10</sup> Keeping all these facts and numbers in mind and after searching different resources like; Pubmed, Pakmedinet. It is concluded that there

is dearth of facts and figures regarding different histopathological finding of our country. Aim of this study was, as no local study specifically addressing this problem has been reported. In addition, the incidence of gastric pathology is unknown locally. A better understanding of the facts and figures would allow identification of those subjects who are predisposed to this pathology and, therefore was benefited from further management plan according to specific histopathological type. We believed that, results of this study considered more valid as a large cohort of patients, from different economic class admitted to a big tertiary care hospital of Pakistan, was included.

## PATIENTS AND METHODS

The six months Cross sectional descriptive study was conducted in the Department of Gastroenterology, Liaquat National Hospital Institute for Postgraduate Medical Studies and Health Sciences, Karachi. The sample Size by taking the least proportion i.e. 3.59% of gastric ulcer with confidence level 95% and margin of error 2%, the sample size was 333. The inclusion criteria were both genders, age 16 to 50 years, the patients with history of epigastric pain and the patients who agree and ready to give consent for participation in the study. The exclusion criteria were patients suffering from intestinal obstruction (confirmed on basis of x ray), patients having intestinal perforation (confirmed on basis of x ray ), electrolyte imbalance (confirmed on basis of serum urea / creatinine /electrolyte), recent gastrointestinal surgery and pregnant females (confirmed by serum B –HCG and pelvic ultrasound)

The histopathological type: Histologically (assessed by a histopathologist under a microscope), are classified as neoplastic and non-neoplastic (gastric ulcer, H pylori gastritis and chronic gastritis). The gastric pathology on the base of endoscopy finding (for example gastric erthema, gastric erosion), histopahtology finding (example as H. pylori gastric, gastric ulcer, neoplastic lesion of gastric mucosa).

The data was collected from patients with

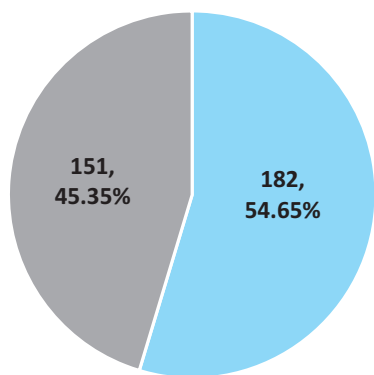
epigastric pain and meeting inclusion and exclusion criteria; attending Gastroenterology out and in patient department. Informed consent was taken and all patients; meeting the criteria was evaluated for gastric pathology by undergoing endoscopy performed by GI fellows having at least 1 year experience under the supervision of consultant gastroenterologists having at least > 05 years clinical experience. Patients was diagnosed as having gastric pathology if there was erythema, erosion seen during endoscopy and its exact location was noted. Mucosal biopsy specimen was taken during endoscopy in Formalin containing bottles, labeling those accordingly and was sent to the same clinical laboratory for histopathology examination for the classification. To control the confounders histopathological evaluation of all the samples was reported by a single histopathologist; having at least 5 years of clinical experience in histopathology. All the relevant information was entered on the annexed proforma. Statistical package of social science (SPSS.13) for windows was used to analyze data. Frequencies and percentages were calculated. Post stratification Chi-square test was applied. For all analysis, a P value  $\leq 0.05$  was considered statistically significant.

## RESULTS

A total of 333 patients with history of epigastric pain were included in this study. Most of the patients were above 40 years of age and the average age of the patients was  $41.31 \pm 7.89$  years as shown in Table-I. The results of the study are presented in Figure1-5 and Table-II-IV respectively.

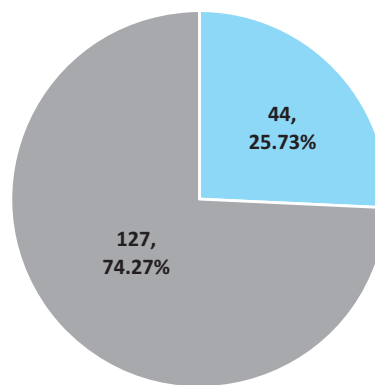
Statistics		Ag (Years)	Duration of Symptoms (months)
Mean		41.31	3.13
Std. Deviation		7.89	1.29
95% Confidence Interval for Mean	Lower Bound	40.46	2.99
	Upper Bound	42.16	3.27
Median		44	3
Inter quartile Range		10	2
Minimum		18	1
Maximum		50	6

**Table-I. Descriptive statistics of age and duration of symptoms n=333**



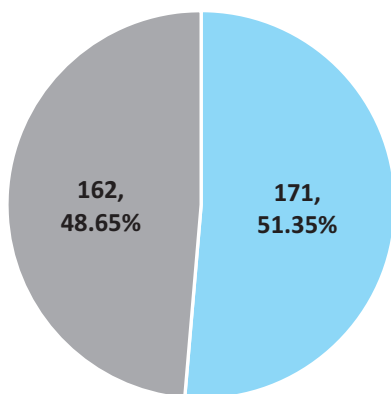
■ Male ■ Female

Figure-1. Sex distribution of the patients n=333



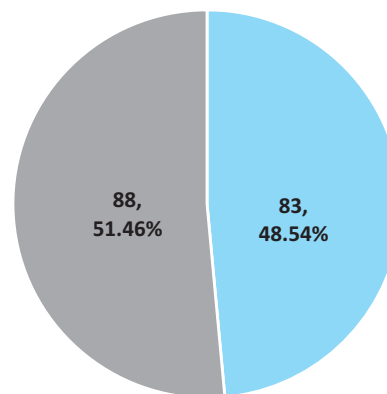
■ Yes ■ No

Figure-4. Type of gastric pathology in term of gastric ulcer n=171



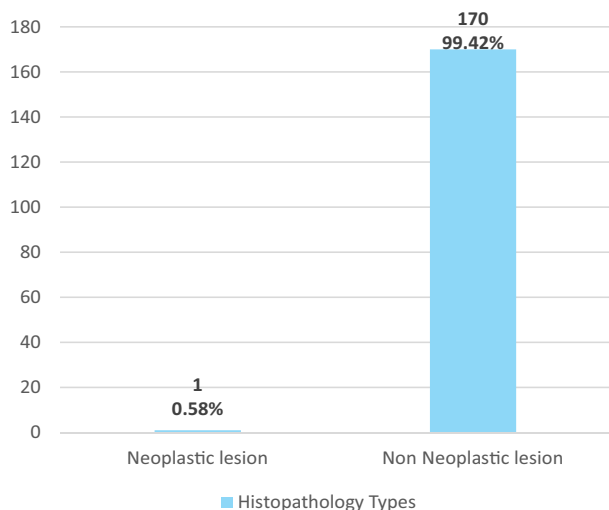
■ Presence ■ Absence

Figure-2. Frequency of gastric pathology in patient presenting with epigastric pain n=333



■ Yes ■ No

Figure-5. Type of gastric pathology in term of h. pylori gastric n=171



■ Histopathology Types

Figure-3. Histopathological of gastric pathology in patient presenting with epigastric pain n=171

Age Groups (Years)	Gastric Pathology		Total
	Presence	Absent	
≤ 30 Years	19(44.2%)	24(55.8%)	43
31 to 40 Years	44(55%)	36(45%)	80
41 to 50 Years	108(51.4%)	102(48.6%)	210

Chi-Square=1.31. P=0.52

Row wise percentage were computed

Table-II. Frequency of gastric pathology in patient presenting with epigastric pain with respect to age groups n=333

Gender	Gastric Pathology		Total
	Presence	Absent	
Male	93(51.1%)	89(48.9%)	182
Female	78(51.7%)	73(48.3%)	151

Chi-Square=0.010. p=0.91

Row wise percentage were computed

Table-III. Frequency of gastric pathology in patient presenting with epigastric pain with respect to gender n=333

## DISCUSSION

Upper Gastrointestinal tract disorders are the common causes for mortalities and morbidities. The stomach and esophagus are the common site for inflammatory lesions, infections, mechanical conditions, vascular disorders and neoplastic and radiation injury.<sup>11</sup> The upper GI endoscopy revealed the GI structures and provides diagnosis and treatment options for various GI disorders (neoplastic and non-neoplastic lesions). The procedure is safe and well tolerated and detects the pathological lesion to have biopsy for the early evaluation and management of the condition and considered as gold standard for accurate assessment of patients having symptoms of upper GI discomfort and also reflects the rising trend for obtaining mucosal biopsies.<sup>12,13</sup> In present study the mean  $\pm$  SD for age was  $41.31 \pm 7.89$  years and mean duration of symptoms was  $3.13 \pm 1.29$  months. There were 182 (54.65%) male and 151 (45.35%) female. In Sheikh, et al<sup>14</sup> study 129 (65.8%) patients were males and 67 (34.2%) patients were females; male to female ratio being 1.92:1. In Memon et al<sup>15</sup> study 200 (46%) were males and 233 (53.8%) were females and the mean age was  $40.00 \pm 4.73$  years. In this study frequency of gastric pathology in patient presenting with epigastric pain was 51.35% (171/333) cases. There were 171 histopathological diagnoses, non-Noeplastic lesion was confirmed in 99.42% (170/177) and one case had Noeplastic lesion. Regarding the type of gastric pathology, 25.73 % (44/171) had gastric ulcer, 48.54 (83/171) was H. pylori gastric and 25.15% (43/171) had chronic gastritis. In a local study the chronic gastritis with H. Pylori (40%), chronic non-specific gastritis with activity (35 %) and without activity (25%).<sup>15</sup> In regard to esophageal lesion the malignant condition occupied 78.6% while rest were hyperplastic (9.4%), inflammatory (5.9%) or dysplastic (4.1%).

## CONCLUSION

In this study frequency of gastric pathology in patient presenting with epigastric pain was high. Regarding the type of gastric pathology, 48.54 was H. pylori gastric and 25.15% had chronic gastritis, 25.73 % had gastric ulcer. It has been concluded that the endoscopy is incomplete without biopsy

and the combination reveals powerful diagnostic step for betterment of patient management and its survival. Therefore will be benefited from further management plan according to specific histopathological type.

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*The wrong man will always find reason to leave.  
While, the right man will always find enough  
reason to stay.*

– Unknown –

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### AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Shahnawaz Tahir	Contribution to conception and design, acquisition of data, analysis and interpretation of data.	
2	Riaz Hussain Awan	Drafting the article and shares its expert research opinion and experience in finalizing the manuscript.	
3	Seema Nayab	Contributed in conception and interpretation of data and give his expert view for manuscript designing.	
4	Khadim Hussain Awan	Collection and acquisition of data, analysis and interpretation of data and make it suitable for final revision and a corresponding author.	