



EPIGASTRIC PAIN AND ENDOSCOPIC FINDINGS IN 100 PATIENTS

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ABSTRACT

Background: Epigastric pain, which is usually described as discomfort or burning in the upper part of the abdomen. It may not always occur after a meal, but it can sometimes occur during fasting and be improved by meal. Upper gastrointestinal tract endoscopy is a simple, safe treatment with great diagnostic and occasionally therapeutic utility. **Objectives:** To evaluate the range of endoscopic findings in patients with epigastric pain to guide clinical treatment strategies. **Methods:** This is a cross-sectional, descriptive, observational study. The study included 100 patients with epigastric pain lasting more than two weeks who signed a consent form for upper gastrointestinal endoscopy. The study excluded patients with prior upper gastrointestinal surgery, known gastrointestinal malignancy or severe comorbidities prevent performing endoscopy. The questionnaire was composed from four parts. The first part is for sociodemographic information including patients' ages, genders, educational levels, residence, family history of gastric problems, unusual caffeine consumption, smoking state and alcohol intake. The second part for patients' anthropometric measures. The third part for patients' drugs used. The fourth part for patients' endoscopic findings. **Results:** Of the 100 patients, a normal mucosa was observed in 18%, gastritis in 46%, peptic ulcer disease in 22%, erosive esophagitis in 8%, and other lesions (varices, masses) in 6%. Gastritis remains the most common endoscopic finding in patients with epigastric pain. Upper endoscopy is essential for accurate diagnosis and management. **Conclusions:** Upper endoscopy in patients with epigastric pain reveals a spectrum of findings, with gastritis and peptic ulcer disease being predominant. Routine biopsies and H. pylori testing are recommended to guide management.

KEYWORDS: Endoscopy, Epigastric, Gastritis, Peptic, Ulcer.

INTRODUCTION

Epigastric pain, which is usually described as discomfort or burning in the upper part of the abdomen. It may not always occur after a meal, but it can sometimes occur during fasting and be improved by meal.^[1] Epigastric pain affects considerable percent of people at some time in their lives.^[2] Its causes vary from functional dyspepsia to pathological diseases like acid reflux, peptic ulcers, helicobacter infections, and in rare cases, upper gastrointestinal cancer.^[3] Upper gastrointestinal endoscopy with tissue sampling considered the gold standard for identifying mucosal lesions and obtaining tissue samples.^[4] Upper gastrointestinal tract endoscopy

is a simple, safe treatment with great diagnostic and occasionally therapeutic utility.^[5-6]

In individuals with warning signs, uncommon symptoms, or symptoms that do not improve with acid-suppressing medications, upper endoscopy is recommended to rule out mucosal damage.^[7] However, the warning symptoms may point to severe condition like cancer that can presented as epigastric pain.^[8] Treatment of epigastric pain differs based on its cause. Simple causes like nonfunctional and GERD require simple measures such as reassurance and limiting of caffeine, chocolate, smoking and alcohol intake.^[9] Other treatment suggestions include eating a low-fat diet, avoiding

snacks before bedtime, and elevating the head of bed.^[10] Anyhow, gastroesophageal reflux disease (GERD) is often treated with acid-reducing drugs and lifestyle adjustments, however extremely severe cases may necessitate surgery to strengthen the esophageal sphincter. Tumors, on the other hand, are aberrant cell growths that often need more aggressive treatments, such as surgery to remove them, radiation therapy to kill cells, or ablation therapy to destroy abnormal cells with heat or cold.^[11]

The aim of this study is to evaluate the spectrum of endoscopic findings in patients with epigastric pain, to guide the clinical management strategies.

MATERIALS AND METHODS

This is an observational, descriptive, cross-sectional study. It was conducted between the 2nd of January 2025 to the end of March 2025 at gastroenterology unit in Mosul General Hospital. The study included 100 patients with epigastric pain lasting more than 2 weeks who write a consent to undergo upper gastrointestinal endoscopy. The study excluded patients with prior upper gastrointestinal surgery, known gastrointestinal malignancy or severe comorbidities prevent performing endoscopy.

The investigators did direct interviews with the patients, before and during endoscopic procedure to complete

self-administered questionnaires. The questionnaire was composed from four parts. The first part is for sociodemographic information including patients' ages, genders, educational levels, residence, family history of gastric problems, unusual caffeine consumption, smoking state and alcohol intake. The second part for patients' anthropometric measures. The third part for patients' drugs used. The fourth part for patients' endoscopic findings.

All patients underwent upper GI endoscopy (gastroscope model [columpus 2018]) by investigators. Findings were classified as normal or abnormal. Abnormalities included gastritis, erosions, ulcers (gastric or duodenal), esophagitis, varices, masses, and strictures. Biopsies were taken from suspicious lesions and for *Helicobacter pylori* testing when gastritis was noted.

Statistical analysis was conducted using SPSS version 30.0 (SPSS Inc., Chicago, USA). Quantitative data were presented as mean $\pm$ standard deviation. Qualitative data were presented as frequency and percentages.

RESULTS AND DISCUSSION

The study included 100 patients, the mean age $\pm$ standard deviation of the study participants was 45.2 ± 13.7 years with range of 18-78 years. Of them 48 (48%) were males and 52 (52%) were females with male to female ratio of 1:1.08. As shown in figure 1.

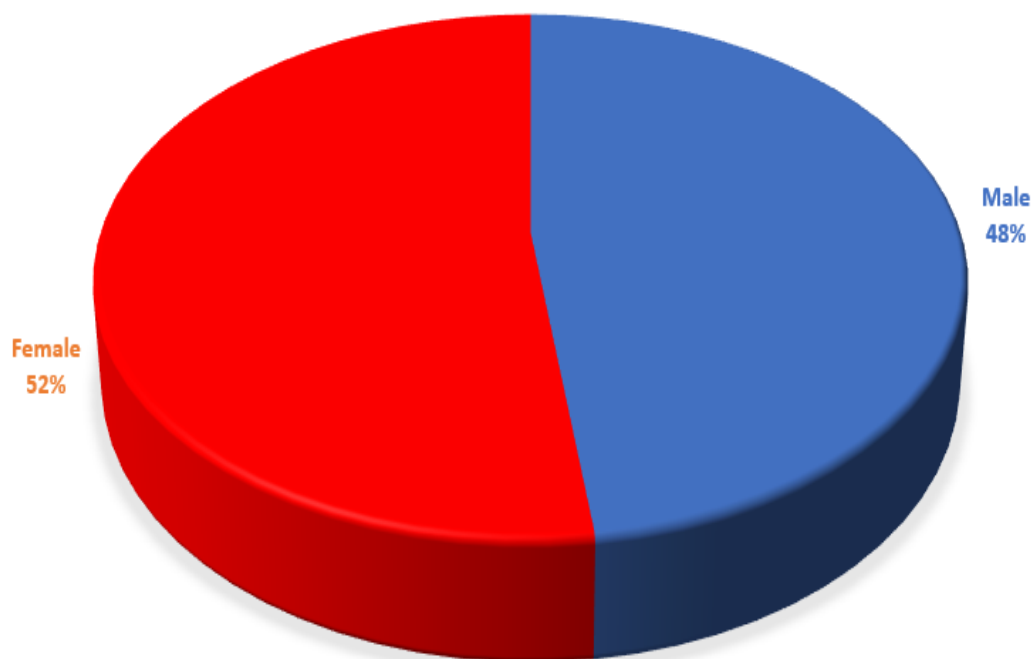


Figure 1: Distribution of the study patients according to their gender.

These findings are in agreement with a study conducted in Tanzania^[12] and with another study conducted in Sudan.^[13]

The majority of male patients (28%) aged 40-49 years, followed by patients aged 30-39 years in (26%). The same thing for female patients, the majority of patients (32%) aged 40-49 years, followed by patients age 30-39 years in (24%). As shown in figure 2.

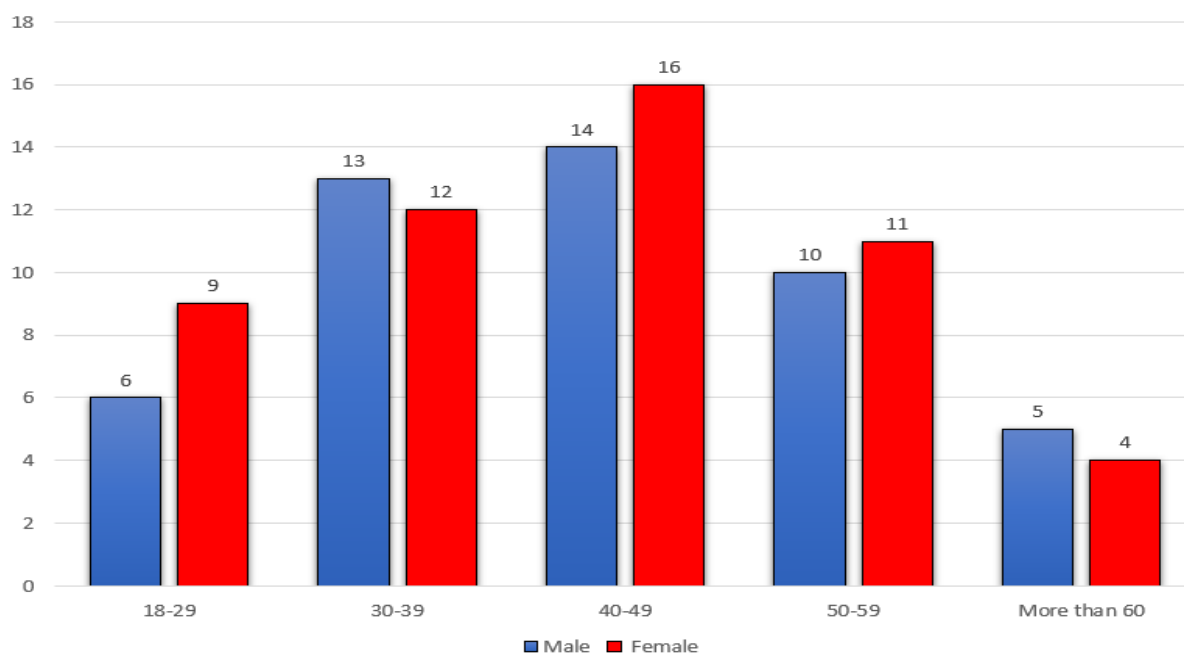


Figure 2: Distribution of the study patients according to their ages.

However, the age findings can be shifted depending on the underlying cause and the demographics of the study. Moreover, female predominance for having epigastric pain is consistent with a broader trend of women reporting higher prevalence of functional gastrointestinal

disorders and other conditions that can cause abdominal pain.^[14-15] This slight predominance in women might be caused by various factors, including sex-specific differences in pain presentation and the impact of female hormones.

Table 1: Distribution of the study participant according to their sociodemographic information. (number =100)

Variables	No.	%
Marital State:		
-Single	22	22%
-Married	63	63%
-Widow	7	7%
-Divorce	8	8%
Residency:		
- Urban	76	76%
- Rural	24	24%
Educational level:		
Illiterate	23	23%
Primary	24	24%
Secondary	37	37%
University	12	12%
Post graduate	4	4%
Family history of gastric problem:		
-Present	36	36%
-Absent	64	64%
Unusual caffeine consumption:		
-Yes	69	69%
-No	31	31%
Smoking:		

Active smoker	28	28%
Passive smoker	23	23%
X -smoker	12	12%
Not smoker	37	37%
Alcohol intake:		
-Yes	9	9%
-No	91	91%
Spicy Food intake:		
-Yes	73	73%
-No	27	27%
Extreme stressful life event:		
-Yes	82	82%
-No	18	18%

Marital status of the study patients could be stressful for patients which make them more liable to experience several gastrointestinal symptoms, such as epigastric pain. Anyhow, this finding is not general, since the relationship is likely complex and indirect with factors such as chronic stress, psychological conditions, and lifestyle habits playing a role.^[16] On the other hand, the predominance of urban residence of the study patients, might due to the hospital setting was been in urban area, which is runs with another study findings.^[17] Furthermore, patients with less than university educational level of education showing more epigastric pain than those with more than university educational level, which is similar to other study result.^[18] This is often linked to broader socioeconomic factors and differences in health-related behaviors.

Regarding family history of gastric problem, more than one third (36%) of the study patient reported positive family history of such problems. Consistent findings obtained by other study.^[19] This indicates a significant genetic and shared environmental risk for gastrointestinal issues like *Helicobacter pylori* infection, dietary habits, and lifestyle. Which highlights the need for personalized prevention and screening strategies to manage potential hereditary conditions.

Considerable percent of the study participants (69%) exhibit unusual caffeine consumption. As caffeine might be irritant of the gastric mucosa, however; this is depended on time of intake with regard to meal, and on already presence of gastric upset.^[20] In the same way active smoking was reported in (28%) of patients, which aligns with other study results.^[21] In the current study, 9% of patients with epigastric pain reported alcohol intake, which is parallel to another study finding.^[22] This is relevant because alcohol can irritate the stomach lining, potentially causing or worsening epigastric pain

by leading to gastritis. Additionally, (73%) of the study patients claimed that they prefer spicy food. Although the percentage varies greatly, studies indicate a substantial correlation between spicy food and upper gastrointestinal problems in some patient populations. For instance, in a study conducted in Iran discovered that eating spicy food frequently was linked to higher chances of epigastric discomfort.^[23] As consuming spicy food can cause a burning sensation and aggravate existing pain for susceptible people. Lastly, (82%) of the study patients reported extremely stressful life event. Consistent finding obtained by many studies.^[24-25] While epigastric pain has many physical causes, such as GERD or gastritis, psychosocial factors like stress is known to play a role in the onset and severity of digestive issues, highlighting the need for a holistic approach to treat such an event to prevent exaggeration of somatic symptoms.

Table 2: Distribution of the study patients according to their body mass index. (number =100)

Variables	No.	%
Underweight	4	4%
Normal weight	22	22%
Overweight	37	37%
Obesity grade I	16	16%
Obesity grade II	14	14%
Obesity grade III	7	7%

In the present study, patient with epigastric pain found to have higher prevalence of overweight and obesity than normal weight and underweight. Which goes with several study findings.^[26-27] This might due to increased risk factors like gastroesophageal reflux disease, functional abdominal pain, and epigastric hernias. Moreover, obesity can cause impairment of gastric motility, which contribute to epigastric pain, and weight loss is often recommended for symptom management.

Table 3: Reported drugs by the study patients. (number =100)

Variables	No.	%
Oral non-steroidal anti-inflammatory drugs	35	35%
Oral iron supplements	21	21%
Oral steroidal drugs	12	12%

Previous drugs intake which potentially affect gastric mucosa were other variables included in the study. About one third (35%) of the study patients reported history of oral non-steroidal anti-inflammatory (NSAID) drug use. Which is consistent with the known side effect of this drug to cause gastric damage by inhibiting protective prostaglandins in the stomach lining, leading to symptoms like pain.^[28] This highlights the importance for clinicians to consider NSAID use when assessing patients with epigastric pain, as discontinuing the drug may alleviate symptoms and prevent further damage. In the same way oral iron supplement use was reported in about one fifth (21%) of the study patients, which agrees with other studies findings.^[29-30] Identifying oral iron supplementation as a cause of epigastric pain, allows for switching to a liquid formulation, adjusting the dose, or using intravenous iron, to prevent further irritation and promote healing. Lastly, oral steroid drugs were used in (12%) of the study patients, as corticosteroids can cause epigastric pain by increase stomach acid production, and reduce protective mucus, increasing the risk of gastritis and ulcers. Which parallel to other study finding.^[31]

Table 4: Endoscopic findings of the study patients. (number =100)

Variables	No.	%
Normal mucosa	18	18%
Gastritis	46	46%
Gastric ulcer	12	12%
Duodenal ulcer	10	10%
Erosive esophagitis	8	8%
Varies	4	4%
Mass	2	2%

Table 5: Biopsy results of the patients with gastritis and gastric ulcer.

Biopsy results	No.	%
<i>Hilcobacter pylori</i>	30	65.2%
Dysplastic changes	2	16.6%

In this study, gastritis was the most frequent finding (46%), from them (65.2%) reported to have *H. pylori* infection. While peptic ulcer disease accounted for (22%), with gastric ulcers slightly more common than duodenal ulcers. While normal endoscopic result found in (18%) underscores the role of functional dyspepsia. The detection of dysplasia in two patients highlights the importance of biopsy in ulcer evaluation. Similar findings obtained by other studies.^[32-34]

The study's limitations include single-center design and lack of follow-up data on therapeutic outcomes. Future research should explore correlations between endoscopic severity, *H. pylori* eradication status, and symptom resolution.

5- CONCLUSION

Upper endoscopy in patients with epigastric pain reveals a spectrum of findings, with gastritis and peptic ulcer

disease being predominant. Routine biopsies and *H. pylori* testing are recommended to guide management.

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