

spray. *H. pylori* infection was determined by the rapid-urease campylobacter like-organism (CLO) test on gastric antral and body biopsies at UGIE. Statistical analysis was performed using the Stata 15® statistical software package. Results were expressed as the median and interquartile range for continuous variables and proportions for nominal variables. The proportion of the major endoscopic findings was presented with a 95% confidence interval.

Result

There were 108 (53.4%) males out of the 202 patients. Their ages ranged from 4 to 94 years with a median age of 46 years (Table 1).

Table 1: Demographic characteristics and Campylobacter-like organism test (CLO test)

Age, Sex and CLO Test	Frequency %
Sex (n=202)	
Male	108 (53.4%)
Female	94(46.5%)
Age (yrs) (n=202)	
41- >80 yrs	81.6%
<30 – 41 yrs	18.3%
CLO test (n=84)	
Positive result	51%
Negative result	37%

The 41-80 year age group had the highest frequency of 165 (81.6%) patients, followed by the <20-40 year age group with 37 (18.3%) patients. Other details of the age distribution are shown in Figure 1.

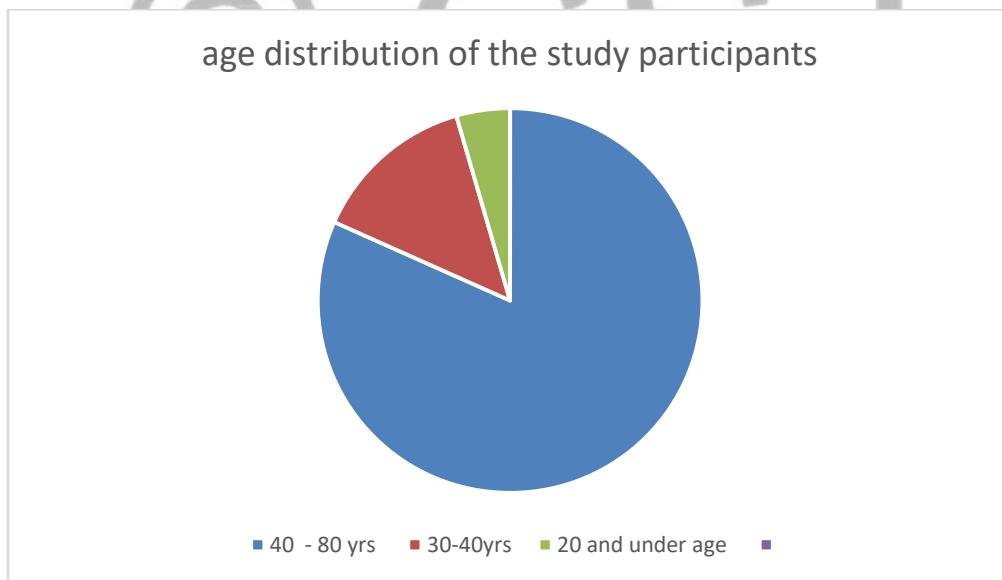


Figure 1: details of the age distribution

Dyspepsia was the commonest indication, occurring in 155 (76.7%) patients, followed by upper GI bleeding symptoms (hematemesis and melena stools with anemia), presenting in 47 (23.2%) patients (Table 2).

Table 2: Indication (Reason) for UGIE

Main Indication for endoscopy	Patient No.	Percentage (Out of 202)
Dyspepsia	155	76.7%
H&M with Anaemia	49	24.2%
Epigastric Pain	18	8.9%
Dysphagia	11	5.4%
Chronic Gastritis	9	4.4%
Vomiting	6	2.9%

The major endoscopic diagnoses were antral gastritis, which occurred in 68 (33.3%) patients, followed by pangastritis in 57 (28.3%) patients, gastric ulcer (33/202, 16.3%), duodenal ulcer (25/202, 12.3%) and 9 cases with Atrophic Gastritis, 5 cases with GERD along with Diverticulitis, and 5 cases with a variety of carcinomas including esophagus and stomach (cardia) (Table 3).

Table 3: Primary UGIE Findings (Diagnosis)

Findings	Patients No.	Frequency
Antral Gastritis	68	33.3%
Pangastritis	57	28.3%
Gastric Ulcer	33	16.3%
Duodenal Ulcer	25	12.3%
Atrophic Gastritis	9	4.5%
GERD + Diverticulitis	5	2.4%
Carcinoma (Esophagus + Stomach cardia)	5	2.4%

The prevalence of *H. pylori* obtained by immediate CLO-testing of gastric antral and body biopsies for patients out 84 of 202 was 41.5% (Table 1). Among 84 patients, *H. pylori* negative was (37/44%) and *H. pylori* positive (51/60%) was ruled out and it is still ruled out as high incidence. Due to ongoing proton pump inhibitor and NSAID use, we were unable to perform on some of the patients. Among 155 dyspeptic patients, antral gastritis 68 (33.3%) was the commonest finding, followed by pangastritis 57 (28.3%).

Discussion

This study aimed to document the demographic characteristics, indications, and endoscopic findings of patients undergoing UGIE at a private hospital in Myanmar. This study represents the first ever report on UGIE indications and findings from a hospital in Yangon, Myanmar. From January 2019 to December 2019, the study has shown that due to sex abbreviation and age classification, the onset of complications of Gastritis and the suggested need for UGIE in males more than females, and also ages ranging from 41 to 80, basically above 60, are the most common. We have seen it in younger people under 40, but not in severe conditions, but mild. Dyspepsia was the commonest indication for upper GI endoscopy in the vast majority of our participants. Other than dyspepsia, the second reason is anemia. Other reasons for UGIE among our patients were symptoms of UGI bleeding, screening for esophageal varices in cirrhotic patients and recurrent vomiting. Only 4.4% of our patients had an upper GI endoscopy for dysphagia, which is a much less common cause of UGIE. Gastritis was the most frequent endoscopic finding in our patients, along with antral gastritis, pangastritis, and atrophic gastritis. Antral gastritis was diagnosed more frequently than pangastritis among our patient population. Although the gastric ulcer rating is low this year, it's still the disease that is more frequently diagnosed than the duodenal ulcer. There are 9 cases of several gastritis, mainly atrophic gastritis, and 5 cases of GERD, along with diverticulitis patients and a few newly diagnosed cancer patients.

Many of the patients in this study were in their middle age or older and probably on NSAIDs for degenerative joint and bone diseases, which predispose more to the development of gastritis. Antral gastritis (AG) is more common in this year's UGIE rather than pangastritis, and the main cause for both is dyspepsia. AG is mainly seen in older people with a long hospital history and *H. pylori* associated gastritis, but nowadays, it can be seen more commonly in the last 2 years. AG affects only the antral portion of the body, making it unlikely to cause Pangastritis. Pangastritis is mostly a chronic type of gastritis because it involves

the entire stomach. It can be caused by H.pylori infection, NSAIDs, excessive alcohol drinking, chronic stress, or autoimmune gastritis. These are the two most common causes of H. pylori bacteria in gastritis.

According to the findings of the study, the prevalence of Helicobacter pylori infection in Myanmar is 60% out of 84 patients, with the majority of them being males over the age of 60 who have been suffering from dyspepsia for months or weeks. The incidence of H.pylori is similar to that conducted by other studies in developing countries in Asia and the Middle East [5]. Two studies performed in India showed that about 80% of the population was infected with Helicobacter pylori [6, 7]. H. pylori colonization of the gut is one of the most common infections globally. Some researchers describe it as the most common chronic human bacterial infection [8, 9]. It is the main cause of chronic gastritis and the principal etiological agent of gastric cancer and peptic ulcer disease. Many countries have seen a decrease in the prevalence of H. pylori as a result of improved living conditions, H2 blockers, antacids, and improved potent antibiotics, as well as additional treatments such as probiotics, glutamine, antioxidants, and omega alpha - 3 fatty acids. H. pylori. Possible reasons for this difference may be the increasing effective eradication therapy of the infection with antibiotic combination and proton pump inhibitors (PPI) and also the widespread and indiscriminate use of antibiotics and PPI. This study did not exclude patients who were already on antibiotics and PPI or had taken these drugs prior to the study. It may also be associated with improved sanitation among the inhabitants [10]. Despite the decrease in prevalence of H. pylori among patients in this study, the current prevalence of 60% is still high compared to rates in developed countries [11]. The prevalence of H. Pylori infection is associated with lower socioeconomic status, sanitation, basic hygiene, poor diet; overcrowding, ethnicity, gender and age, low levels of education and geographic location also play a major role in the distribution of the infection [12, 13]. This may explain the higher prevalence of H. Pylori in developing countries.

Conclusion

UGI diseases remain one of the main health problems in Myanmar. They are currently found in most endoscopy patients and are the fifth major cause of death nationwide. In this year of 2019, most endoscopy-related diseases are AG and Pangastritis in Yangon, along with common symptoms such as dyspepsia. These diseases can be treatable with suitable treatment and excessive care, but we shouldn't be so careless about them as they can also be fatal. Patients with AG and pangastritis were mostly older (over 60 without sex verification) and had H.pylori infection. H.pylori infection was significantly associated with the presence of gastric mucosal atrophy and is most common among the population. The high prevalence of H. pylori (60%) in this study indicates that the infection is still a common problem among the Myanmar population, mainly at adult age (> 60). As H. pylori positivity can lead to serious gastrointestinal problems throughout an individual's life, it can be emphasized that it is essential for screening and timely treatment leading to eradication.

Competing interests

The authors declare no competing interests.

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