

Upper Gastrointestinal Abnormalities in Esophagogastroduodenoscopy Examination: Descriptive Study in Air Force Central Hospital Endoscopic Unit

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ABSTRACT

Background: *The Endoscopy Unit of Indonesian Air Force Central Hospital Dr. Esnawan Antariksa, Jakarta, Indonesia, has just been established in late 2004 and it is still in developing process. This study was aim to depict the profile of patients who underwent esophagogastroduodenoscopy procedure in the unit.*

Method: *This study was a retrospective study that analyzed data in endoscopic registry of patients who underwent esophagogastroduodenoscopy (EGD) examination from September 2004 to December 2007.*

Result: *Total of 108 patients underwent EGD examination, comprised of 66 (61%) males and 42 (39%) females, with average age of 45.4 years old (range 16-77 years old). The most frequent indication for EGD was dyspepsia 63%, followed by hematemesis-melena 26% and dysphagia 5.5%. Among patients with dyspepsia, EGD revealed organic abnormalities in 71% patients, with descriptions of erosive gastritis 35%, gastritis 18%, bile reflux 7%, esophagitis 5% and gastric ulcer 3%. Among patients with hematemesis-melena, EGD revealed abnormalities, which were described as erosive gastritis 48%, esophageal varices bleeding 22%, gastric ulcer 18%, caustic injury 4%, and esophagitis 4%.*

Conclusions: *EGD is an important procedure to ascertain the occurrence of organic abnormalities in patient with gastrointestinal symptoms and signs e.g. dyspepsia and gastrointestinal bleeding. More than half of patients with dyspepsia showed organic abnormalities. Among patients with hematemesis-melena, erosive gastritis is more common than variceal bleeding.*

Keywords: *esophagogastroduodenoscopy, dyspepsia, upper gastrointestinal bleeding, hematemesis melena*

INTRODUCTION

The endoscopic unit of Indonesian Air Force Central Hospital Dr. Esnawan Antariksa, has just been established in late 2004 and still developing in terms of equipment and human resource. Albeit its fledgling status, cases has been steadily examined in the unit

since its beginning. Esophagogastroduodenoscopy (EGD) is an important procedure, because it is a highly accurate method to evaluate the mucosal surface of the esophagus, stomach, and duodenum.¹ Several established indications to perform the procedure include dyspepsia, persistent nausea or vomiting, evaluation of upper gastrointestinal bleeding (hematemesis or melena), dysphagia, abdominal pain, and damage evaluation after caustic ingestion. During the procedure, diagnostic tissue sampling such as biopsy can be undertaken, in addition to therapeutic measures such as esophageal varices band ligation.^{1,2,3}

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The profiles of examined patients in our endoscopic unit has not been systematically described. The result of descriptive study on the collected data can then be compared to previous reports regarding profiles of patients in other endoscopic centers. Moreover, it can contribute as a consideration to future epidemiological studies about endoscopic examinations. The aim of this study is to describe the profile of upper gastrointestinal abnormalities in patients who underwent EGD procedure in the unit.

METHOD

This study was a retrospective study that analyzed data in endoscopic registry of patients who underwent EGD examination in the Endoscopic Unit of Indonesian Air Force Central hospital Dr. Esnawan Antariksa from September 2004 to December 2007. Data of patients was retrieved from manual registry and computer data as well as image recording system. Review was undertaken on indications, presenting problems, initial diagnosis, and the conclusions after endoscopy. Subsequently, the descriptions and the images of endoscopic results were compared to the standard world organisation of digestive endoscopy nomenclature and an atlas of clinical endoscopy.^{4,5}

RESULT

Total of 108 patients underwent EGD examination, comprised of 66 (61%) males and 42 (39%) females, with average age of 45.4 years old (range 16-77 years old). The most frequent indication for EGD was dyspepsia 63%, followed by hematemesis-melena 26% and dysphagia 5.5% (figure 1). Rare indications that occurred are post-ingestion of kerosene and *corpus alienum*. Among patients with dyspepsia, EGD revealed organic abnormalities in 71% patients, with descriptions of erosive gastritis 35%, gastritis 18%, bile reflux 7%, esophagitis 5% and gastric ulcer 3% (figure 2). Rare findings include esophageal tumor, duodenal ulcer, duodenal polyp and duodenal helminthiasis. Among patients with hematemesis-melena, EGD revealed abnormalities which were described as erosive gastritis 48%, esophageal varices

bleeding 22%, gastric ulcer 18%, caustic injury 4%, and esophagitis 4% (figure 3).

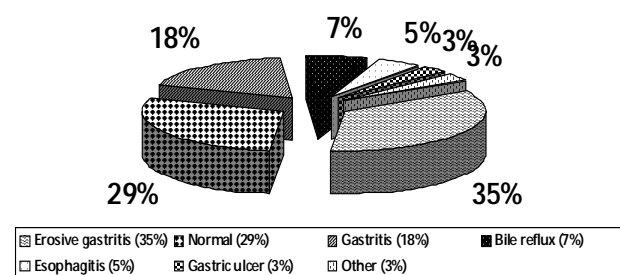


Figure 2. Abnormalities in patients with dyspepsia

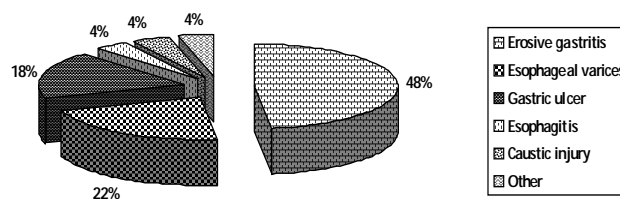


Figure 3. Abnormalities in patients with hematemesis melena

DISCUSSION

EGD currently is regarded as an important procedure in gastroenterology because it is the best method for examining the upper gastrointestinal mucosa. EGD has many advantages in detecting gastric ulcers and flat mucosal lesions such as Barrett's esophagus, and it also permits directed biopsy as well as endoscopic therapy.⁶

This study encompasses a dataset of patients with common indications for EGD examination, such as dyspepsia, gastrointestinal bleeding presenting as hematemesis or melena and dysphagia. Several less frequent indications were caustic agent ingestion, kerosene ingestion and foreign matter in gastrointestinal tract.

Dyspepsia is the most common indication in this study. Dyspepsia is a nonspecific term to represent upper abdominal discomfort that is considered to arise from the upper-GI tract. Dyspepsia may include a variety of more specific symptoms, including epigastric discomfort, bloating, anorexia, early satiety, belching or regurgitation, nausea, and heartburn. Symptoms of dyspepsia most frequently result from one of four underlying disorders, i.e. peptic ulcer disease, Gastroesophageal Reflux Disease (GERD), functional disorders (no ulcer dyspepsia), and malignancy. Dyspeptic symptoms also may result from many other problems, such as medication complications, pancreatitis, biliary-tract disease, or motility disorders.^{7,8}

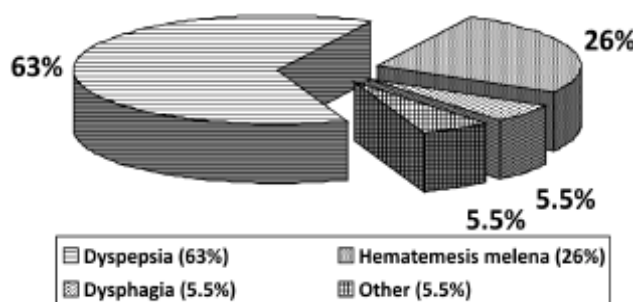


Figure 1. Indications of EGD examination

Patients with dyspepsia who are older than 50 years of age or those with alarm features such as family history of upper GI malignancy, unintended weight loss, gastrointestinal bleeding or iron deficiency anemia, progressive dysphagia, odynophagia, persistent vomiting, palpable mass or lymphadenopathy and jaundice should undergo endoscopy examination. Endoscopy should be considered for patients in whom there is a clinical suspicion of malignancy even in the absence of alarm features.⁷

The study population showed that among patient with dyspepsia, the endoscopy showed normal appearance only in less than half of all subjects, larger proportion showed varying structural abnormalities. The most common finding is gastritis, followed by bile reflux, esophagitis, ulcer disease and other less frequent abnormalities. The findings in this study are similar to results reported by other authors. Dataset of EGD examinations in 591 dyspepsia patients at Cipto Mangunkusumo hospital, in 1994 showed 71.6% organic findings. The most common finding was gastritis, 49.91% (including 15.67% erosive gastritis), followed by duodenitis 7.67%, esophagitis 5.83%, bile reflux 4.5%, duodenal ulcer 3.5% and gastric ulcer 2.2%.^{2,8} Study of 550 patients in the endoscopic centers of several cities in Indonesia from January 2003 to April 2004 revealed that among patients with dyspepsia, the most frequent endoscopic diagnosis was gastritis and/or duodenitis 44.7%, followed by esophagitis 15.5%, mild erosive gastritis 15.1%, normal 8.2%, gastric ulcer 6.5%, duodenal ulcer 3.6% and severe erosive gastritis 2.9%.⁹ Other report described that the most common structural diseases identified in patients with dyspepsia are erosive esophagitis and peptic ulcer disease.⁷

Another important group of patients of this study was the one suffering from upper gastrointestinal bleeding presenting as hematemesis and/or melena. Endoscopy should be considered as a primary and pivotal early intervention in establishing the source of bleeding, differentiating between esophageal varices bleeding and other sources such as gastric or duodenal bleeding.^{10,11} Early endoscopy, if possible within 24 hours after the onset of episode, allows clinicians an opportunity for therapeutic interventions and estimation of an individual's risk for recurrent bleeding. These benefits impact greatly on practical patient management since therapeutic interventions have been shown to reduce adverse outcomes associated with upper gastrointestinal bleeding and allow clinicians the opportunity to choose the appropriate level of care and resource utilization commensurate with their likelihood of rebleeding.^{2,10}

This study shows that the most frequent underlying structural abnormality is erosive gastritis. Bleeding from

esophageal varices, which has long been known as the most frequent cause of upper GI bleeding, is found in less than a quarter of all subjects. It is still not clear whether this finding could be concluded as a trend of shifting underlying cause, i.e. from predominantly variceal bleeding to non-variceal bleeding; notably erosive gastritis. A report of patients in Cipto Mangunkusumo hospital in 1996-1998 shows that esophageal varices bleeding is still ranked as the most frequent cause of upper gastrointestinal bleeding.² Recent report of 4,154 patients in 2001-2005 at Cipto Mangunkusumo hospital, shows that three most frequent causes of upper gastrointestinal bleeding are varices 33.5%, peptic ulcer 26.9% and erosive gastritis 26.2%.¹² In line with this, other reports from government hospitals in Surabaya, Bandung and Yogyakarta reveal that three most frequent causes of upper gastrointestinal bleeding are esophageal varices bleeding, erosive gastritis and peptic ulcer, respectively. On the other hand, a report from a private hospital in Surabaya shows that peptic ulcer is the most frequent cause, followed by erosive gastritis, esophageal varices bleeding and malignancy.¹³

After completing of the study, it is apparent that several improvements still have to be undertaken in our endoscopic unit. We have to improve the hospital registration and the patient symptoms collecting data. Terminology of endoscopic diagnosis also has to be more rigorously established adhering to the widely accepted criteria, which may render further study for better comparison or even incorporated in larger studies involving other endoscopy units.

CONCLUSION

EGD is an important procedure to ascertain the occurrence of organic abnormalities in patient with gastrointestinal symptoms and signs e.g. dyspepsia and gastrointestinal bleeding. In this study, more than half of patients with dyspepsia shows organic abnormalities. Among patients with hematemesis-melena, erosive gastritis is more common than variceal bleeding.

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