

The endoscopy profile of patients with Gastrointestinal Bleeding (GIB) at Klungkung Regional General Hospital, Bali, Indonesia during the 2014-2018 period

I Gede Restu Mahendra Sugiarta,^{1*} I Ketut Sumandi^{2,3}

ABSTRACT

Background: Gastrointestinal Bleeding (GIB) is an emergency case that often found in the condition. In Indonesia, the prevalence of GIB in the population is still unknown. Endoscopy is an examination procedure that used to see abnormalities in gastrointestinal mucosa or lumen of GIT, which is a relatively safe procedure to determine the causal of GIB. This study aims to evaluate the endoscopy profile of patients with GIB at Klungkung Regional General Hospital, Bali, Indonesia during the 2014-2018 period.

Methods: A descriptive cross-sectional study was conducted among the medical records of 410 patient's register who underwent endoscopy due to GIB during 2014-2018 period using total sampling technique at Klungkung Regional General Hospital, Bali, Indonesia. Variables assessed in this study included the sociodemographic of patients, type of endoscopy, and the outcome

of endoscopy procedure. Data were analyzed using SPSS version 21 for Windows.

Results: The highest proportion based on age were in the age of 51-60 years-old (23.4%) group. Males were predominant in this study (57.1%) compared with females (42.9%). Based on the type of endoscopy, Esophagogastroduodenoscopy (EGD) examination was predominant (80.7%) compared with colonoscopy (19.3%). Superficial Gastritis was the most common findings (41.5%) from EGD, while colorectal tumours with suspected colorectal cancer and haemorrhoid (6.1%) were predominant in colonoscopy evaluation.

Conclusion: The endoscopy profile found among patients with GIB at Klungkung Regional General Hospital, Bali, Indonesia was dominated by age 51-60 years-old group, males gender, EGD assessment, superficial Gastritis in EGD, and colorectal tumour in colonoscopy evaluation.

Keywords: Profile, Proportion, GIB, Endoscopy, Klungkung, Hospital.

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INTRODUCTION

Gastrointestinal bleeding (GIB) is a part of disorder which bleeding occurred by several symptoms, such as fresh or black-red blood vomiting (*hematemesis*), blackish stool (*melena*), and fresh red stool (*hematochezia*).¹ GIB divided by 2 parts, upper gastrointestinal bleeding (UGIB) and lower gastrointestinal bleeding (LGIB). There are separated by *ligamentum treitz*, the barrier between the upper gastrointestinal tract (UGT) and the lower gastrointestinal tract (LGT).²

GIB is an emergency case that often found in medical condition. According to British Society of Gastroenterology, the most common cause of UGIB is peptic ulcer with 26% cases.³ While according to literature review of Bai Y et al., the most common cause of LGIB in China includes colorectal cancer, colitis, anorectal disease, and inflammatory bowel disease (IBD).⁴

The prevalence of GIB in Indonesian's population is still unknown. Based on a preliminary survey at the Klungkung Regional General Hospital in 2019, the number of GIB cases obtained from

2014 to 2018 that examined with endoscopy was 410 cases.

Endoscopy is an examination's procedure that used to view the abnormal finding in gastrointestinal mucosa or lumen GIT, which is a relatively safe procedure to determine causal of GIB. Endoscopic examination of UGT is called Esophagogastroduodenoscopy (EGD) that includes the oesophagus, gaster until duodenum.⁵ While the endoscopic examination of LGT is called colonoscopy that provides for rectum, sigmoid colon, descending colon, transverse colon, ascending colon, cecum, and ileum.⁶

All results that obtained from endoscopic examination were varied by region. Based on Agustian's study, the description of EGD abnormalities in patients with dyspepsia that found at Cipto Mangunkusumo Hospital was gastritis with 41.2% cases.⁷ While from Azmi's study, the description of EGD abnormalities in patients with GIB that found at M. Djamil Central General Hospital, Padang, was peptic ulcer with 27.8% cases.⁸ However, the

¹General Practitioner, Faculty of Medicine, Universitas Udayana, Bali, Indonesia

²Department of Internal Medicine, Klungkung Regional General Hospital, Bali, Indonesia

³Endoscopy Unit, Klungkung Regional General Hospital, Bali, Indonesia

*Correspondence to:
I Gede Restu Mahendra Sugiarta;
General Practitioner, Faculty of
Medicine, Universitas Udayana, Bali,
Indonesia;
dr.restumahendra@gmail.com

previous study conducted by Lubis M found that the description of colonoscopy in patients with LGIB that found at Adam Malik Hospital, Medan, was Haemorrhoid with 44.7% cases.⁹

The exact cause of GIB in patients at Klungkung Regional General Hospital is unknown. With endoscopy, common causes of GIB can be found in patients at Klungkung Regional General Hospital. This study aims to evaluate the endoscopy profile of patients with GIB at Klungkung Regional General Hospital, Bali, Indonesia, during the 2014-2018 period.

METHODS

This research is a descriptive study using a cross sectional design that purpose to determine the profile of endoscopy patients with GIB based on patient's sociodemography (age and gender), type of endoscopy that used (EGD or Coloscopy), and results of endoscopy that found in Klungkung Regional General Hospital from 2014 until 2018 period.

This research was carried out in Endoscopy Unit, Klungkung Regional General Hospital, with consideration of available data from 2014 until 2018 regarding patients with GIB who underwent endoscopic examination. Data in this research is secondary data obtained from patient's register at Endoscopy Unit, Klungkung Regional General Hospital.

The population's target is all GIB patients that inward and outward in Klungkung Regional

General Hospital. While the population's affordable in this research are all patients with GIB who underwent endoscopy in Klungkung Regional General Hospital from 2014 until 2018. Samples in this study are all GIB patients who underwent endoscopy in Klungkung Regional General Hospital from 2014 until 2018. The number of samples in this study was 410 samples, using total sampling's method, obtained from results of a preliminary survey that conducted in the Endoscopic Unit, Klungkung Regional General Hospital, on 2019. Data that has been collected are analyzed using a computer with SPSS version 21 for Windows software.

RESULTS

From [Table 1](#), the profile's proportion of endoscopy in patients with GIB at Klungkung Regional General Hospital from 2014 until 2018 is described in several categories. The proportion based on age is highest in the age 51-60 years-old group (23.4%) and the lowest in the age 15-20 years-old (1.0%) ([Table 1](#)). Based on gender, males were predominant (57.1%) compared with females (42.9%). In addition, based on the type of endoscopy, EGD procedure was dominant with 80.7%, while colonoscopy with 19.3% ([Table 1](#)). The results of endoscopy found in this study were varied, from EGD, the superficial gastritis was most frequent with 41.5%, and the lowest diagnosis was Mallory-Weiss tear with 0.7% ([Table 1](#)). While from the colonoscopy, colorectal tumours were the most frequent with suspected colorectal cancer and haemorrhoid (6.1%, respectively), and the lowest

Table 1 The profiles of endoscopy patients with GIB at Klungkung Regional General Hospital from 2014-2018 period

Variables	Frequency (N=410)	Percentages (%)
Age		
15 - 20 years old	4	1,0
21 - 30 years old	22	5,4
31 - 40 years old	51	12,4
41 - 50 years old	93	22,7
51 - 60 years old	96	23,4
61 - 70 years old	89	21,7
71 - 80 years old	47	11,5
81 - 90 years old	8	2
Gender		
Male	234	57,1
Female	176	42,9
Type of Endoscopy		
EGD	331	80,7
Colonoscopy	79	19,3

Table 1 *Continue*

Variables	Frequency (N=410)	Percentages (%)
Outcome of Endoscopy		
EGD		
Superficial Gastritis	170	41,5
Erosive Gastritis	58	14,1
Peptic Ulcer	26	6,3
Duodenal Ulcer	9	2,2
Gastric Tumor susp. Cancer	14	3,4
GERD	14	3,4
Gastritis with Worm Infection	27	6,6
Esophageal Varices	9	2,2
Portal Hypertensive Gastropathy	4	1,0
Mallory-Weiss Tear	3	0,7
Colonoscopy		
Colorectal Tumor susp. Cancer	25	6,1
Colitis	8	2,0
Proctitis	16	3,9
Hemorrhoids	25	6,1
Normal Results of Endoscopy	2	0,5

diagnosis based on colonoscopy was colitis with 2.0%. There is also typical endoscopy result with 0.5% among the cases (Table 1).

DISCUSSION

The profile's proportion in Klungkung Regional General Hospital based on age is highest at the age of 51 to 60 years at 23.4%. This is consistent with the study by Azmi et al., which stated that the proportion of endoscopic profiles in M. Djamil Central Hospital, Padang, was highest at the age of 51 to 60 years with 29.0%.⁸

Age is one of the risk factors for GIB. GIB can occur both in young and old. However, older adults are the most frequent group cases of GIB. In Upper Gastrointestinal Bleeding (UGIB), it caused by several factors (reduced mucosal protective mechanisms, altered gastric microbiota, *H. pylori* infection, and increased NSAIDs or aspirin use).^{10,11} While in Lower Gastrointestinal Bleeding (LGIB), it caused by several factors (an ageing process that effect to gastrointestinal motility and mucosal or lumen thinning, inflammatory process due to infection or autoimmune in LGT, and presence of tumours due to genetic mutations).¹⁰

The profile's proportion in Klungkung Regional General Hospital based on gender is higher in males with 57.1%, while females with 42.9%. This is consistent with the study by Azmi et al., in 2016 which stated that the proportion of endoscopic

profiles in M. Djamil Central Hospital, Padang, based on gender was higher in male with 64.8%, while females with 35.2%.⁸ However, it hasn't been able to determine the definite cause of male that suffering GIB more often than female.

The proportion of Endoscopy profiles in Klungkung Regional General Hospital based on the type of Endoscopy is higher in EGD with 80.7%, while colonoscopy with 19.3%. This is in accordance with the study of Kaminang which stated that the proportion of endoscopic profiles in Prof. Dr R. D. Kandou Central Hospital, Manado, based on the type of Endoscopy was higher in EGD with 80%. In comparison, colonoscopy with 20%.¹² UGIB is the most common case GIB that compared to LGIB because patients with LGIB are rarely going to the hospital so that the case of LGIB that found were underreported.¹³ Thus, the use of EGD is more often at all hospitals, especially in Klungkung Regional General Hospital, compared to colonoscopy in the case of GIB.

The profile's proportion of Endoscopy in Klungkung Regional General Hospital based on results of Endoscopy is highest in superficial gastritis with 41.5% from EGD examination. In comparison, colonoscopy analysis is more elevated in colorectal tumours with suspected colorectal cancer and haemorrhoid with 6.1%. A previous study by Azmi et al., also found that the proportion of endoscopic profiles in M. Djamil Central Hospital, Padang, based on results of Endoscopy is highest in multi

lesions of 38.3% from EGD examination.⁸ However, the previous results are not consistent with the study by Anand et al., in 2014 which found that the proportion of endoscopic profiles in North India Hospital based on results of Endoscopy is highest in Portal Hypertension Gastropathy (PHG) with 56.14% from EGD examination.¹⁴ But, the results were consistent with the study by Lubis et al., in 2012 where the proportion of endoscopic profiles in Adam Malik Hospital, Medan, based on results of Endoscopy is highest in haemorrhoid with 44.1% from colonoscopy examination.⁹ The Endoscopy's result that recorded in Endoscopy Unit, Klungkung General Hospital, depending on the interpretation of internal medicine specialist who was on duty at endoscopy unit, based on the Endoscopy's finding. Any findings that obtained from Endoscopy (EGD or colonoscopy) have a different characteristic of lesions. Based on EGD, superficial gastritis is most common recorded because the lesion that found are hyperemic without erosion or gastric ulcers. While based on colonoscopy, colorectal tumour and haemorrhoid are more common because of the mass that found in the colon or the rectum or anus.

CONCLUSION

Endoscopy is an examination procedure to determine abnormalities in gastrointestinal mucosa or lumen GIT. Endoscopy that performed in Klungkung Regional General Hospital is divided into two types, EGD and Colonoscopy. EGD was more often used for patients with GIB than Colonoscopy. Based on EGD, superficial gastritis was most common recorded in the Endoscopy Unit, Klungkung Regional General Hospital. By knowing the profile of Endoscopy in patients with GIB at Klungkung Regional General Hospital, hoped that it could provide definitive and adequate treatment for patients with GIB.

CONFLICT OF INTEREST

None.

ETHICS CONSIDERATION

Ethics approval has been obtained prior to the study being conducted from Ethics Committee, Faculty of Medicine, Universitas Udayana and Klungkung Regional General Hospital, Bali, Indonesia.

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AUTHOR CONTRIBUTION

All of authors are equally contributed to the study from the conceptual framework, data gathering, data analysis, until interpreting the results of study through publication.

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