

# Etiology Profile of Lower Gastrointestinal Bleeding

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## ABSTRACT

**Background:** Lower gastrointestinal bleeding (LGIB) is still a significant health problem since the unknown etiology had not existed until now. Similar condition occurs at Adam Malik Hospital. No data about the etiology of LGIB has been defined. Therefore, this study was aimed to recognize the etiology profile of LGIB at Adam Malik Hospital, Medan.

**Method:** A retrospective descriptive study was conducted on medical records of patients who had undergone lower gastrointestinal tract endoscopy (colonoscopy) at Adam Malik Hospital, Medan between January 2009 and December 2010 based on their complaint of hematochezia. Data was analyzed using SPSS version 19. The data was categorized based on subjects' age, sex and etiology of their hematochezia.

**Results:** There were 116 patients consisted of 61 (52.6%) males and 55 (47.4%) females with mean age of 50.52 (17-84) years. The colonoscopy revealed 52 (44.7%) cases of hemorrhoidal varices, 17 (14.7%) cases of rectal carcinoma, 17 (14.7%) normal endoscopic results, 8 (6.9%) cases of sigmoid carcinoma, 8 (6.9%) of proctitis, 6 (5.1%) cases of colitis, 4 (3.5%) cases of colon carcinoma, and 4 (3.5%) cases of rectosigmoid carcinoma.

**Conclusion:** This study found that hemorrhoidal varices is the most common etiology of LGIB.

**Keywords:** LGIB, colonoscopy, hemorrhoids

## ABSTRAK

**Latar belakang:** Perdarahan saluran cerna bagian bawah (PSCBB) masih menjadi masalah kesehatan karena hingga saat ini penyebabnya masih belum diketahui. Begitu halnya di Rumah Sakit (RS) Adam Malik, data yang merangkum etiologi PSCBB juga belum diketahui. Penelitian ini bertujuan untuk mengetahui profil etiologi perdarahan saluran cerna bagian bawah di RS Adam Malik, Medan.

**Metode:** Studi deskriptif retrospektif dilakukan terhadap data rekam medis pasien yang menjalani prosedur endoskopi saluran cerna bagian bawah (kolonoskopi) di RS Adam Malik, antara Januari 2009 sampai Desember 2010 berdasarkan keluhan hematokezia pada pasien. Data dianalisis dengan SPSS 19 dan dikategorikan berdasarkan usia, jenis kelamin dan etiologi dari hematokezia.

**Hasil:** Didapatkan 116 pasien yang terdiri dari 61 (52,6%) laki-laki dan 55 (47,4%) perempuan, dengan usia rata-rata pasien yaitu 50,52 (17-84) tahun. Pada pemeriksaan kolonoskopi didapatkan 52 (44,7%) kasus varises hemoroid, 17 (14,7%) kasus karsinoma rektum, 17 (14,7%) endoskopi normal, 8 (6,9%) kasus karsinoma sigmoid, 8 (6,9%) kasus proktitis, 6 (5,1%) kasus kolitis, 4 (3,5%) kasus karsinoma kolon dan 4 (3,5%) kasus karsinoma rektosigmoid.

**Simpulan:** Pada penelitian ini dapat diketahui bahwa penyebab terbanyak perdarahan saluran cerna bagian bawah adalah varises hemoroid.

**Kata kunci:** perdarahan saluran cerna bagian bawah, kolonoskopi, hemoroid

## INTRODUCTION

Anatomically, lower gastrointestinal bleeding (LGIB) refers to bleeding originating from a site distal to the ligament of Treitz.<sup>1-4</sup> Common clinical presentation includes passage of stools with bright red blood (hematochezia), or sometimes the maroon red blood.<sup>5</sup>

The literatures have categorized the etiologies of LGIB based on their location in the colon, which include diverticular disease, angiodysplasias, ulcerative colitis, Crohn's disease, ischemic colitis, infectious colitis, pseudomembranous colitis, colorectal cancer, colorectal polyp, visceral aneurysm, autoimmune vasculitis, anorectal hemorrhoids, anal fissure, solitary rectal ulcer, radiation proctitis, rectal varices, anorectal injuries, ileocecal trauma, non-steroid anti-inflammatory drugs (NSAID)-induced ulcer, Meckel diverticulum, arteriovenous malformation and aorto-enteric fistula.<sup>2</sup>

The annual incidence of LGIB is about 20-30/100,000 persons, which is increasing with age. Although about 80% of lower gastrointestinal bleeding will cease spontaneously the identification of bleeding source is still a great challenge and the risk of recurrent bleeding may achieve 25%.<sup>3,6</sup> LGIB is still a significant health problem since 5-20% of the etiologies is unknown.<sup>6-9</sup> Therefore, the aim of this study was to recognize the etiology profile of LGIB at Adam Malik Hospital, Medan, which was expected as the baseline data for further studies in the future.

## METHOD

A retrospective descriptive study was conducted on medical records of patients who had undergone colonoscopy with a complaint of haematochezia at Adam Malik Hospital, Medan between January 2009 and December 2010. The obtained data was analyzed by univariate descriptive analysis using SPSS version 19. The data was subsequently categorized based on subjects' age, sex and etiology of their hematochezia. Inclusion criteria were patients who had a complaint of passage of stools with bright red blood and were willing to undergo colonoscopy procedure. Ethical clearance was obtained from the Ethical Committee at Faculty of Medicine, University of North Sumatera.

## RESULTS

We found 116 patients with the greatest prevalence of 61 (52.6%) males and the mean age was 50.5 years with the range of age of 17-84 years (Table 1). The results

of colonoscopy demonstrated that the most common etiologies was hemorrhoidal varices, which found in 52 (44.7%) patients; while normal colonoscopy results were found in 17 (14.7%) patients (Table 2).

**Table 1. Distribution of patients who had lower gastrointestinal bleeding based on sex and age**

Criteria	n (%)
Sex	
Male	61 (52.6)
Female	55 (47.4)
Age (years)	
15-25	6 (5.2)
26-35	8 (6.9)
36-45	31 (26.7)
46-55	25 (21.6)
56-65	25 (21.6)
66-75	14 (12.0)
> 75	7 (6.0)

**Table 2. Distribution of the etiologies of lower gastrointestinal bleeding**

Etiology	n (%)
Hemorrhoidal varices	52 (44.7)
Colorectal carcinoma	17 (14.7)
Normal endoscopic result	17 (14.7)
Sigmoid carcinoma	8 (6.9)
Proctitis	8 (6.9)
Colitis	6 (5.1)
Descending colon cancer	4 (3.5)
Rectosigmoid carcinoma	4 (3.5)

## DISCUSSION

Lower gastrointestinal bleeding is still an important problem in the community. Although it has lower mortality rate compared to upper gastrointestinal bleeding, but it frequently causes symptoms of anemia such as easily exhausted and weakness; which may lead to reduced patients' productivity. Various studies have demonstrated that 80% of LGIB in adults are usually asymptomatic and approximately 80% of them will cease spontaneously.<sup>3,6</sup>

Data of Gastroenterology Endoscopic Service Center at Department of Internal Medicine, Cipto Mangunkusumo Hospital in Jakarta demonstrated that there were 442 patients who had undergone lower gastrointestinal endoscopy based on indication of hematochezia between 2000-2001. Hemorrhoid was the most common etiology of lower gastrointestinal bleeding, i.e. 38.2%.<sup>10</sup> A study conducted by Alonso et al, at Clínico San Carlos Hospital in Madrid, 2008 which studied 177 patients with mean age of 70.5 years, found that the most common etiology was internal hemorrhoid of 35.0% cases.<sup>11</sup> Tan et al, conducted a study in Singapore Hospital for 1 year, which studied 547 patients with rectal hemorrhage and

found that the most common etiology was hemorrhoid of 94% cases.<sup>12</sup> A study conducted in Jordan with 701 patients also found that the most common cause for rectal hemorrhage was hemorrhoids.<sup>13</sup> Those facts are consistent with these findings at Adam Malik Hospital, Medan, which revealed that of 116 patients who had undergone colonoscopy between January 2009 and December 2010 with complaints of hematochezia. The mean age was 50.5 years and we found that 44.7% of causes was hemorrhoids.

It has been reported that about 10% of LGIB has unknown causes. Other studies also reported that 5-20% colonoscopy procedure which reached the cecum revealed no distinct causes.<sup>3,6,8,9</sup> This study demonstrated that 17 (14.7%) patients had normal colonoscopy results and the cause of their hematochezia might be originated from the site proximal to cecum.

The data of this study also demonstrated that there were more male than female subjects (52.6% vs 47.4%), with the youngest subjects at 17 years of age and the oldest were 84 years. The results are consistent with other studies which revealed that the majority of patients with LGIB were male patients aged 63-77 years. The risk of LGIB is increasing with age. An individual who is > 80 years of age has 200 times greater risk of having LGIB compared to those who are 20 years old. It is also associated to the fact that the prevalence of colonic diverticulosis and angiodysplasia is increasing with age.<sup>3,6</sup>

## CONCLUSION

LGIB is more common in male patients with mean age of 50.5 years; while the most common etiology for LGIB is hemorrhoidal varices.

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