Symptoms and Diagnostic Yields of Colonoscopy in St Vincentius Hospital Singkawang West Borneo 2017-2018

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ABSTRACT

Background: *Colonoscopy is the gold standard procedure which is widely used in the diagnosis and treatment of colonic mucosal disorder. Colonoscopy examination which is included in the referral system of the social insurance administration organization has been available at St Vincentius Hospital Singkawang since March 2017 to support diagnosis of lower gastrointestinal diseases. Patients were from Singkawang City and 3 surrounding districts (Sambas, Bengkayang, and Mempawah) that close to the Malaysian border. The purpose of this study is to evaluate symptom and diagnosis yield of patient who underwent colonscopy at St. Vincentius Hospital, Singkawang from March 2017 to April 2018.*

Method: *This was a retrospective descriptive study by using secondary data of patient's medical records at St Vincentius Hospital Singkawang in March 2017 - April 2018. Every patient is included as a sample (total sampling).*

Results: *Total numbers are consisted 78 colonoscopies, with 163 cases of lower gastrointestinal disease. Three major findings of colonoscopy were internal hemorrhoids (64%), colon mass (30%), and inflammatory bowel disease (IBD) (26%). Indications of patient to underwent colonoscopy were hematochezia 38%, chronic diarrhea 19%, chronic constipation 18%, anemia 12%, abdominal pain 6%, screening neoplasia 3% and unexplained weight lost 3%.*

Conclusion: *Hematochezia is the most common indication of patients to underwent colonoscopy at Singkawang and its surrounding districts. The most common finding of colonoscopy was hemorrhoid.*

Keywords: *colonoscopy, hematochezia, hemorrhoids, neoplasia*

ABSTRAK

Latar belakang: *Kolonoskopi merupakan prosedur baku emas untuk mendiagnosis dan memberikan terapi pada saluran cerna bagian bawah. Pemeriksaan kolonoskopi yang berbasis Badan Penyelenggara Jaminan Sosial (BPJS) telah tersedia di Rumah Sakit (RS) Santo (St) Vincentius Singkawang sejak Maret 2017 untuk menunjang diagnosa dari kelainan saluran cerna bawah. Pasien rujukan berasal dari Singkawang dan kabupaten sekitarnya seperti Sambas, Bengkayang, dan Mempawah, dimana daerah ini sangat dekat dengan perbatasan Malaysia. Tujuan penelitian ini adalah untuk mengetahui indikasi, dan temuan klinis dari pasien-pasien yang menjalani kolonoskopi di RS St Vincentius, Singkawang sejak Maret 2017 - April 2018.*

Metode: *Jenis penelitian ini deskriptif retrospektif dengan menggunakan data sekunder dari catatan rekam medik pasien di RS St Vincentius Singkawang pada bulan Maret 2017- April 2018. Semua pasien pada periode tersebut dimasukkan sebagai sampel penelitian (total sampling).*

Hasil: *Terdapat 78 pasien yang menjalani kolonoskopi. Temuan kolonoskopi sebanyak 163 kasus kelainan saluran cerna bagian bawah. Tiga temuan kolonoskopi terbanyak adalah hemoroid interna (64%), massa colon (30%), dan inflammatory bowel disease (26%). Indikasi pasien menjalani kolonoskopi adalah hematoskezia 38%, diare kronik 19%, konstipasi kronik 18%, anemia 12%, kolik abdomen 6%, penapisan neoplasia dan penurunan berat badan masing-masing 3%.*

Simpulan: *Hematoskezia merupakan indikasi terbanyak pasien dalam menjalani tindakan kolonoskopi di Singkawang dan sekitarnya. Temuan paling sering pada kolonoskopi adalah hemoroid.*

Kata kunci: *kolonoskopi, hematoskezia, hemoroid, neoplasia*

INTRODUCTION

Colonoscopy is the gold standard procedure in diagnosing and administering therapy in lower gastrointestinal tract. This procedure is safe and effective to directly observe the condition of the colon starting from the distal rectum to the caecum. Colonoscopy also has higher sensitivity than barium enema and abdominal computerized tomography (CT) scan.[1] According to the American Society for Gastrointestinal Endoscopy (ASGE), the indication for colonoscopy is to evaluate abnormalities found in barium enema, lower digestive tract bleeding (haematochezia, faecal occult blood test), iron deficiency anaemia with unknown cause, chronic diarrhoea, evaluation of inflammatory bowel disease (IBD), neoplasm case screening until the management of bleeding and neoplasma.[2]

Badan Penyelenggara Jaminan Sosial (BPJS) based colonoscopy examination is available at St Vincentius Hospital, Singkawang and is performed by an internist since March 2017 to support the diagnosis of lower gastrointestinal tract abnormalities. This colonoscopy unit is the first endoscopy unit in Singkawang which is performed by endoscopy certified internist. This colonoscopy service receives referral patients from Singkawang and its surrounding districts, such as Sambas, Bengkayang, and Mempawah, which are located close to the Indonesia-Malaysia borders.

Based on the data from Gastrointestinal Tract Endoscopy Centre *(pusat endoskopi saluran cerna/PESC)* in Cipto Mangunkusumo Hospital year 2010-2011, there were 154 patients who underwent colonoscopy procedure. The number of this colonoscopy is expected to increase every year.[3] The aim of this study was to describe the indication and clinical findings from patients who underwent colonoscopy in St Vincentius Hospital, Singkawang in March 2017 – April 2018.

METHOD

This study was a descriptive retrospective study using secondary data from patients' medical records who underwent colonoscopy in St Vincentius Hospital, Singkawang in March 2017 – April 2018. The population of this study was all patients who underwent colonoscopy in St Vincentius Hospital, Singkawang (total sampling). Sample of this study was medical records of patients experiencing lower gastrointestinal tract abnormalities who underwent colonoscopy procedure in St Vincentius Hospital, Singkawang in March 2017 – April 2018. Patient came from Singkawang, Sambas, Bengkayang, and Mempawah.

All patients who underwent colonoscopy would be given mild sedation using pethidine HCL and midazolam. This colonoscopy procedure was performed by one internist who had endoscopy certification and was accompanied by two endoscopy nurses. Colonoscopy instrument being used in this study was colonoscopy Fujinon EPX 2500. All patients who underwent the colonoscopy must have a porridge and soy sauce based diet for two days. This was followed by the administration of sodium phosphate dibasic and sodium phosphate monophasic (Fleet Phosphosoda®), bisacodyl tablet (Dulcolax®) to evacuate faeces from the colon. Additionally, patients were asked to fast for eight hours before the colonoscopy procedure was to be performed. The quality of colon clearance was evaluated using Boston score.

Variables being evaluated in this study were sex, age, complaint, and clinical findings from patients who underwent colonoscopy. Data were processed using Microsoft Excel 2016. Data will be presented in the form of text, table, and figure.

RESULTS

From the results of the study performed in St. Vincentius Hospital, Singkawang in March 2017 –

April 2018, it was found that 78 patients underwent colonoscopy. Patients were predominantly males compared to females, which were 49 male patients (63%) and 29 female patients (37%). The most common age group which underwent colonoscopy was 51-60 year, with 19 patients (24%) and 61-70 years with 21 patients (27%). The most common ethnic group undergoing colonoscopy was Malay with 34 patients (44%), followed by Chinese with 20 patients (26%) and Dayak with 9 patients (12%).

Table 1. Distribution of patients who underwent colonoscopy (n = 78)

Variable	n (%)
Sex	
Male	49 (63)
Female	29 (37)
Age group	
0-10	0 (0)
11-20	2 (3)
21-30	2 (3)
31-40	10 (13)
41-50	11 (14)
51-60	19 (24)
61-70	21 (27)
70-80	11 (14)
> 80	2 (3)
Ethnicity group	
Bugis	2 (3)
Dayak	9 (12)
Javanese	7 (10)
German	1 (1)
Madura	2 (3)
Malay	32 (44)
Malay-Javanese	1 (1)
Sundanese	1 (1)
Chinese	18 (25)

From 78 patients who underwent colonoscopy in St Vincentius Hospital, Singkawang, the most common case being found was internal haemorrhoid in 47 patients (64%), followed by colon mass in 22 patients (30%), inflammatory bowel disease (IBD) in 19 patients (26%) and colon polyp in 28 patients (25%). Other findings in this study were two normal cases, two redundant colon cases, lymphadenopathy, appendicitis, perianal abscess, and intestinal lumen stricture and narrowing. For colorectal cancer findings, biopsies had been performed previously. Diagnostic findings had been sorted by biopsy results. The colonoscopy unit in St Vincentius Hospital suffered a problem in October 2017 – March 2018 as the endoscopy instrument was broken and could not operate optimally.

Table 2. Clinical findings in colonoscopy

Findings	n (%)
External haemorrhoid	9 (10)
Internal haemorrhoid	52 (64)
Inflammatory bowel disease	20 (26)
Anal skin tag	6 (8)
Colon mass	23 (30)
Diverticula	9 (12)
Colon polyp	20 (25)
Colorectal cancer	11 (14)
Others	13 (16)

From 78 patients who underwent colonoscopy in St Vincentius Hospital, Singkawang, a total of 163 lower digestive tract abnormality cases were found and one patient could have more than one diagnosis. There were various colonoscopy indications and one patient might have 1-3 medical indications (n = 234). From the results of this study, it was found that there were seven most common indications for patients to undergo colonoscopy. Haematochezia was the most common indication in 38% patients undergoing colonoscopy. Other indications were chronic diarrhoea 19%, chronic constipation 18%, anaemia 12%, abdominal colic 6%, screening of neoplasm and weight loss with 3% for each indication.

Table 3. Clinical indications for patients undergoing colonoscopy (n = 234)

Clinical indications	n (%)
Haematochezia	90 (38)
Chronic diarrhoea	46 (19)
Constipation	42 (18)
Anaemia	28 (12)
Abdominal colic	14 (6)
Screening	7 (3)
Weight loss	7 (3)

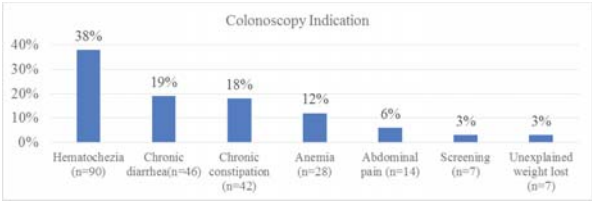

Figure 1. Graph showing clinical indication for patients to undergo colonoscopy

Haematochezia was the most common indication for colonoscopy. Colonoscopy results in patients with symptom of haematochezia were haemorrhoid (30%), colon mass (19%), colon polyp (14%), IBD (11%), colorectal cancer (10%), others (10%) and diverticula (6%).

Table 4. Indications and clinical findings of endoscopy patients

Indication	Haemorrhoid	Colon mass	IBD	Polyp colon	Adenocarcinoma	Diverticula	Others	Total findings
Haematochezia	27	17	10	13	9	5	9	90
Chronic diarrhoea	10	9	10	4	8	2	3	46
Constipation	18	3	3	7	1	4	6	42
Anaemia	8	7	1	4	5	1	2	28
Abdominal colic	4	2	2	3	1	0	2	14
Screening	4	0	2	1	0	0	0	7
Weight loss	2	2	1	1	1	0	0	7
	73	40	29	33	25	12	22	234

IBD: inflammatory bowel disease

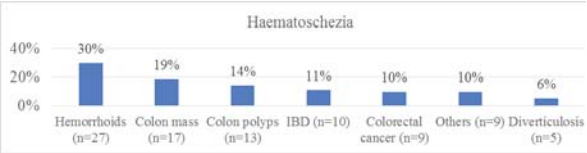

Figure 2. Haematochezia and its clinical findings

Chronic diarrhoea was the second most common indication for colonoscopy procedure. Colonoscopy results in chronic diarrhoea cases were haemorrhoids (22%), IBD (22%), colon mass (20%), colorectal cancer (17%), colon polyp (9%), others (7%), and diverticula (4%).

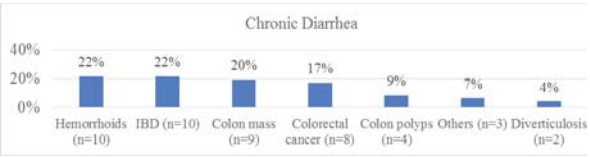

Figure 3. Chronic diarrhoea and its clinical findings

The third most common indication for colonoscopy procedure was chronic constipation. Colonoscopy results for chronic constipation include haemorrhoid (43%), colon polyp (17%), others (14%), diverticula (10%), colon mass (7%), IBD (7%), and colorectal cancer (2%).

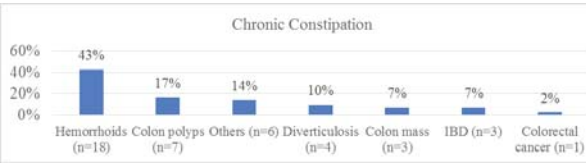

Figure 4. Chronic constipation and its clinical findings

Anaemia was the fourth most common indication in patients to undergo colonoscopy in St Vincentius Hospital, Singkawang. Colonoscopy results of anaemia were haemorrhoid (29%), colon mass (25%), colorectal cancer (18%), colon polyp (14%), others (7%), IBD (4%), and diverticula (4%).

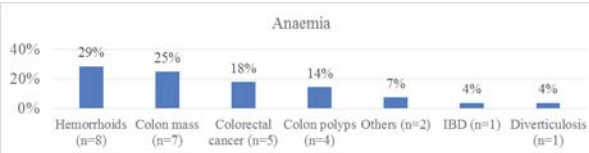

Figure 5. Anaemia and its clinical findings

Abdominal pain was the fifth most common indication for patients to undergo colonoscopy in St Vincentius Hospital, Singkawang. Colonoscopy results of this symptom were haemorrhoid (29%), colon polyp (21%), colon mass (14%), IBD (14%), others (14%), colorectal cancer (7%), and diverticula (0%).

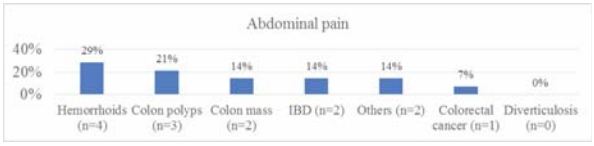

Figure 6. Abdominal pain and its clinical findings

Unexplained weight loss in patients was the sixth most common indication for colonoscopy to be performed. Colonoscopy results in this symptom include haemorrhoid (29%), colon mass (29%), IBD (14%), colorectal cancer (14%), colon polyp (14%), diverticula (0%), and others (0%).

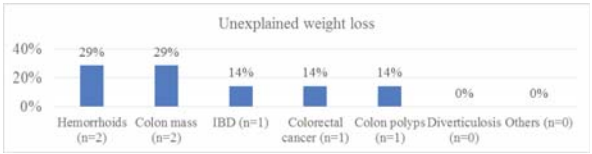

Figure 7. Weight loss and its clinical findings

Screening was the least common indication to perform colonoscopy in St Vincentius Hospital, Singkawang. Colonoscopy findings in this screening were haemorrhoid (57%), IBD (29%), and colon polyp (14%).

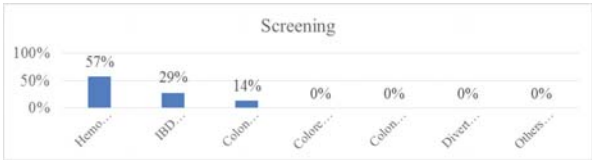

Figure 8. Screening and its clinical findings

DISCUSSION

Indication of colonoscopy in St Vincentius Hospital, Singkawang were lower gastrointestinal tract bleeding (haematochezia or positive faecal occult blood test), iron deficiency anaemia without known cause, chronic diarrhoea, constipation, abdominal colic, weight loss, and neoplasm cases screening. This was in accordance with the indication based on the recommendation from American Society for Gastrointestinal Endoscopy (ASGE).[2]

Haematochezia was the most common indication for colonoscopy procedure to be performed in St Vincentius Hospital, Singkawang. This finding was in line with the study by Ghassemi et al and Gralnek et al in the United States in 2013. Haematochezia was most commonly found in haemorrhoid, colon mass, colon polyp and IBD. This finding was similar to those of Gralnek et al in the United States and Cahyono et al in Yogyakarta which reported that haematochezia was

commonly found in haemorrhoid, colon mass, colon polyp, and IBD.[5,6]

Chronic diarrhoea was the second most common indication causing patients to undergo colonoscopy procedure. Chronic diarrhoea was most frequently found in haemorrhoid, IBD, colon mass, and colorectal cancer. This finding was in accordance with the findings by Cai et al in China, Cahyono et al in Yogyakarta, and Shah et al in the United States which also described the incidence of chronic diarrhoea in IBD, colon mass, and colorectal cancer.[6-8] We could not find supporting data regarding the association between chronic diarrhoea and haemorrhoid. Chronic diarrhoea that was caused by haemorrhoid may happen by coincidence or bystander.

Chronic constipation was the third most frequent indication for colonoscopy. The most common colonoscopy results for chronic constipation were haemorrhoid, colon polyp, others, and diverticula. This result was in accordance with the study results reported by Cai et al in China and Peery et al in the United States.[7,9] Constipation was also one of the symptoms which may appear in diverticulosis.[10]

Anaemia was commonly found in haemorrhoid, colon mass, colorectal cancer, and colon polyp cases. This result was in agreement with those reported by Ahmadi et al in Iran and Polin in France which stated that the aetiology of anaemia in lower gastrointestinal tract were colorectal cancer, colon mass, haemorrhoid, and colon polyp.[11-12]

Abdominal colic was also one of the indications for colonoscopy in St Vincentius Hospital. Colonoscopy results for abdominal colic included haemorrhoid, colon polyp, colon mass, and IBD. American Cancer Society recommends screening to be performed in patients who had risk factor complaining of abdominal pain.[13] Cahyono et al in the year 2014 in Yogyakarta found the presence of IBD, proctitis, and colon polyp cases in their study.[6] Thornton et al also reported the presence of abdominal pain complaints in those diagnosed with haemorrhoid.[14] Abdominal pain symptom alone could not be the sole indication for patient to underwent colonoscopy, considering that there were various different perceptions of pain in every individual patient and other causes of abdominal pain.[15]

In our study, weight loss was most commonly found in haemorrhoid and mass, followed by colorectal cancer, IBD, and colon polyp. This result was in accordance to that of Mummadi et al in 2007 in United States which found the presence of weight loss in colorectal cancer and IBD.[16] We did not find supporting data about haemorrhoid and colon polyp triggering weight loss. This could be a coincidence or bystander.

Screening was the least common indication in St Vincentius Hospital, Singkawang. This finding was most frequently found in heaemorrhoid, followed by IBD and colon polyp. Cahyono et al in 2014 also found similar result in their study.[6] The low indication of screening in Singkawang and surrounding areas could be caused by the lack of information on the importance of colonoscopy screening, participation of health workers and community.

CONCLUSION

Alarm symptom was the key in determining colonoscopy procedure to find significant diagnostic abnormalities. Haematochezia was the most frequent indication for patients in Singkawang to undergo colonoscopy. Colonoscopy results in haematochezia were haemorrhoid, colon mass, colon polyp, and IBD.

Author Disclosures

The authors have no financial or commercial conflicts of interest in this work.

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