

Profile Of Obstructive Ileus In Colorectal Cancer Patients In H. Adam Malik Hospital For 2016-2020

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Abstract

Background: The most common cause of colonic obstruction is carcinoma, especially in the rectosigmoid and distal left colon. Signs of bowel obstruction are late signs of colorectal cancer. Colorectal cancer is the third most common malignancy in the world and the third most common cause of cancer death worldwide.

Methods: This study is a descriptive study with a cross sectional design with data taken from medical records. Of all respondents, the total number of patients diagnosed with colorectal cancer from 2016-2020 was 2751 patients, of which 348 patients experienced obstructive ileus.

Results: In this study, it was found that the gender of the respondents was found to be the most male as many as 202 people (58%), and female as many as 146 people (42%). The most common age category found in respondents aged 50-59 years was 143 people (41.1%). The most common location of cancer was found in the rectum as many as 156 people (44.8%), then sigmoid as many as 70 people (20.1%). For histopathological examination, the most common was undifferentiated carcinoma as many as 254 people (73%). A total of 146 people (42%) underwent sigmoidostomy diversion, while the Hartman procedure in 65 people (18.7%).

Conclusion: There were 348 patients with obstructive ileus, where this proportion constituted 7.9% of all cases of colorectal cancer.

Keywords: obstructive ileus, colorectal cancer, incidence proportion

Introduction

Obstructive ileus is one of the most common causes of acute abdomen and abdominal surgery emergencies (Griffiths & Glancy, 2019). The incidence of obstructive ileus is about 15% of all cases of acute abdomen (Cote, 2015). This is very important to note because the morbidity and mortality rates are still high, causing about 30,000 deaths and costing about 3 million dollars in medical costs annually and requiring 20% of emergency surgeries (Catena, 2019).

Every year 1 in 1000 people of all ages is diagnosed with ileus. The incidence of obstructive ileus in 2015 is known to reach 16% of the population. In America, it is estimated that 300,000-400,000 suffer from ileus each year. World (Ever, 2017). In Indonesia, there were 7,059 cases of paralytic and obstructive ileus hospitalized and 7,024 outpatients in 2004 according to the Indonesian Ministry of Health data bank (Faradilla, 2009).

Of all cases of obstructive ileus, 80% occur in the small intestine and the remaining 20% occur in the large intestine/colon (Soressa, 2016). Adhesive bands are the most common cause of obstruction, namely 60% in various age groups, 20% colon cancer, strangulated or incarcerated hernias 10%, and inflammatory bowel diseases 5%. Based on age, hernia is the most common cause in childhood, and colorectal carcinoma at an older age (Simatupang, 2010).

Research in Malaysia showed that from 92 cases of intestinal obstruction, the percentage of causes of intestinal obstruction was found, including hernias by 38%, adhesions by 25%, neoplasms by 15.2%, volvulus by 8.6%, intussusception by 5.4%, and causes of intestinal obstruction. others by 2.17%. Overall, the percentage of obstruction in the small intestine is 73.9%, while the incidence of large bowel obstruction is 26.1% (Obaid, 2011). In accordance with the 2007 Markogiannakis study found that colorectal cancer is one of the three most obstructive causes (13.4%) of 150 patients with obstructive ileus. The effects of obstructive colon included ischemia (16.6%), necrosis (16.6%), and perforation (11.1%).

The most common cause of colonic obstruction is carcinoma, especially in the rectosigmoid and left distal colon. Signs of bowel obstruction are late signs of colorectal cancer. This obstruction is a total mechanical intestinal obstruction that cannot be helped by gastric tube insertion, fasting and infusion. However, it must be helped with surgery (laparotomy). Generally, the first symptoms arise due to complications, namely intestinal physiology disorders in the form of digestive system disorders, intestinal obstruction, bleeding or due to the spread of tumors. Usually the pain disappears due to intestinal obstruction and is followed by vomiting and abdominal distension/bloating (Mukherjee, 2019).

Colorectal cancer is a malignancy originating from the large intestine tissue, consisting of the colon (the longest part of the large intestine) and the rectum (the last small part of the intestine before the anus). Colorectal cancer is the third most common malignancy in the world and the third most common cause of death in the world due to cancer (Li and Lai, 2009). The overall risk of getting colorectal cancer is 1 in 20 people (5%). The risk of disease tends to be less in women than in men (Kemenkes RI, 2017).

In Indonesia alone, the incidence of colorectal cancer in 2018 in men was 19,113 cases and in women there were 10,904 cases (Globocan, 2019). The incidence of colorectal cancer in Indonesia is 12.8 per 100,000 adults, with a mortality of 9.5% of all cancer cases. In Indonesia, colorectal cancer now ranks number 3, a sharp increase caused by changes in Indonesian diets, both as a consequence of increasing prosperity and a shift towards a westernized way of eating that is higher in fat and lower in fiber (IKABDI, 2014).

Most colorectal malignancies are located in the rectum (22%), recto sigmoid (8%), sigmoid (20%), descending colon (12%), splenic flexure (8%), transverse colon (6%), hepatic flexure (4%), ascending colon (6%), cecum (12%), appendix (2%). Patient complaints due to colorectal cancer depend on the size and location of the cancer. Complaints from lesions in the right colon can be in the form of a feeling of fullness in the abdomen, symptomatic anemia and bleeding, while complaints originating from lesions in the left colon can be in the form of changes in the pattern of defecation, bleeding, constipation to obstruction (Petrek, 2018). Based on the above background that the incidence of obstructive ileus in colorectal cancer patients is still high and no previous research has been conducted in Medan, the authors are interested in conducting a research on the profile of obstructive ileus in colorectal cancer patients at Haji Adam Malik General Hospital for the period 2016-2020.

Methods

This type of research is descriptive with a cross sectional design. The data to be used is secondary data taken from medical records. In this study, we want to know the profile of obstructive ileus in colorectal cancer patients at Haji Adam Malik General Hospital for the period 2016-2020. This research was conducted at the Haji Adam Malik General Hospital. Haji Adam Malik Central General Hospital was chosen as the research location because it is a central hospital and a referral hospital in North Sumatra Province. This study was conducted with the approval of the ethics committee.

The population of this study were all colorectal cancer patients at Haji Adam Malik General Hospital Medan in 2016-2020. The sample to be used in this study were all colorectal cancer patients who experienced obstructive ileus at Haji Adam Malik General Hospital Medan in 2016-2020. The sample in this study was taken using a total sampling technique, where the entire research population was included as the research sample. In addition, the samples to be taken must meet the inclusion criteria and are not included in the exclusion criteria during the study.

The inclusion criteria in this study were obstructive ileus patients with colorectal cancer, patients >18 years old, patients who had undergone surgery, had histopathological results in the form of malignancy/cancer and patients were hospitalized at H. Adam Malik Hospital in 2016-2020. Exclusion criteria were patients suffering from paralytic ileus and patients with obstructive ileus not due to colorectal cancer. After adjusting to the inclusion and exclusion criteria, there were 348 patients with obstructive ileus, where this proportion constituted 7.9% of all cases of colorectal cancer.

This study used secondary data in the form of medical records of colorectal cancer patients who experienced obstructive ileus at Haji Adam Malik General Hospital in 2016-2020. The data from the medical records are recorded and grouped based on predetermined variables. The data that has been collected and grouped based on variables will then be processed and analyzed using the SPSS (Statistical Package for Social Science) ver 22 program. Furthermore, it is presented in tabular form and described.

Results

This study is a descriptive study with a cross sectional design with data taken from medical records. Of all respondents, the total number of patients diagnosed with colorectal cancer from 2016-2020 was 2751 patients. After adjusting to the inclusion and exclusion criteria, there were 348 patients experiencing obstructive ileus, where this proportion constituted 7.9% of all cases of colorectal cancer.

Table 1. Demographic Characteristics

Variable	Frequencies	Percentages
Gender		
Male	202	58%
Female	146	42%
Age		
30-39 years	36	10.3%
40-49 years	107	30.7%
50-59 years	143	41.1%
>60 years	62	17.8%
Cancer location		
Caecum	34	9.8%
Ascending Colon	20	5.7%
hepatic flexure	6	1.7%
Transverse Colon	24	6.9%
Splenic Flexure	12	3.7%
Descending Colon	25	7.2%
Sigmoid	70	20.1%
Rectum	156	44.8%
Histopathology		
Mucinous adenocarcinoma	67	19.3%
Adenocarcinoma	202	58%
Signet ring ca	25	7.18%
Small cell ca	15	4.31%
Squamous cell ca	10	2.87%
Undifferentiated ca	23	6.61%
Adenosquamous ca	6	1.72%
Management		
Sigmoidostomy diversion	146	42%
Right hemicolectomy	47	13.5%
Left hemicolectomy	19	5.5%
Extended right hemicolectomy	32	9.2%
Extended left hemicolectomy	31	8.9%
Hartman procedure	65	18.7%
Total or Subtotal colectomy	8	2.3%
Total	348	100%

From Table 1, it can be seen that the gender of the respondents was found to be the most male as many as 202 people (58%), and women as many as 146 people (42%). For the age of the respondents, the most obtained were aged 50-59 years as many as 143 people (41.1%), then 40-49 years as many as 107 people (30.7%), aged >60 years as many as 62 people (17.8%) and aged 30-39 years as many as 36 people (10.3%).

Regarding the location of the cancer, most were found in the rectum as many as 156 people (44.8%), then sigmoid as many as 70 people (20.1%), caecum as many as 34 people (9.8%), descending colon as many as 25 people (7.2%), transverse colon as many as 24 people (6.9%), 20 people ascending colon (5.7%), splenic flexure 12 people (3.7%) and hepatic flexure 6 people (1.7%).

For histopathological examination, the most found were adenocarcinoma as many as 202 people (58%), then mucinous adenocarcinoma as many as 67 people (19.3%), signet ring carcinoma as many as 25 people (7.18%), undifferentiated carcinoma as many as 23 people (6.61%), small cell carcinoma as many as 15 people (4.31%), squamous cell carcinoma as many as 10 people (2.87%) and adenosquamous carcinoma as many as 6 people (1.72%).

In the management variable, 146 people (42%) underwent sigmoidostomy diversion, while the Hartman procedure in 65 people (18.7%), right hemicolectomy in 47 people (13.5%), right extended hemicolectomy in 32 people (9.2%), left extended hemicolectomy in 31 (8.9%), and left hemicolectomy in 19 (5.5%).

Discussion

In this study, it can be seen that the gender of the respondents was found to be the most male as many as 202 people (58%), and women as many as 146 people (42%). This is in line with the research conducted by Winner et al. 2013 where the proportion

of males is 52.9% higher than that of females is 47.1%. Likewise, Yeo's study in 2021 stated that men were more likely to develop colorectal cancer (4.13 per 100,000) than women (3.15 per 100,000) (Winner, 2013; Yeo and Merchant, 2021).

According to the research of Joseph et al. In 2015, the incidence of colorectal cancer in men was associated with estradiol levels. Estradiol in normal amounts functions in spermatogenesis and fertility. However, excessive amounts of estradiol inhibit the secretion of gonadotropin proteins such as LH which in turn reduces testosterone secretion (Joseph, Schneider and Case, 2015).

High levels of testosterone have been shown to be associated with a reduced risk of colorectal cancer. In addition, this can also be caused by the habit of consuming alcohol, and smoking more in men so that it can trigger the occurrence of malignancy in the colon. Research shows that about 20% of colorectal cancers occur in men due to smoking and alcohol consumption (Ahmad Khan, 2019).

For the age of the respondents, the most obtained were aged 50-59 years as many as 143 people (41.1%), then 40-49 years as many as 107 people (30.7%), aged >60 years as many as 62 people (17.8%) and aged 30-39 years as many as 36 people (10.3%). The results of this study are in line with the research conducted by Judge et al. in 2020, the most age groups suffering from colorectal cancer were in the 50-70 year range, namely 65.7%.

In a study conducted by Khan in 2019 which obtained research results in the form of the largest age group in colorectal cancer patients, namely in the late elderly age group (56-65 years), which was 26.4%. These data are in accordance with the research of Suliman et al. 2020 which states that the incidence of colorectal cancer is higher at the age of 50 years and over compared to the age of 20-49 years. So that screening is needed for people aged 50 years because they have a high risk for colorectal cancer (Ahmad Khan, 2019; Suliman., 2020).

This is because in aging there is a decrease in the function of cells and tissues in maintaining structure and repairing themselves, resulting in accumulation of cell damage. Therefore, gradually the human body's power will decrease, causing many metabolic distortions to occur, resulting in degenerative diseases and age-related diseases such as colorectal cancer (Joseph, Schneider and Case, 2015).

Regarding the location of the cancer, most were found in the rectum as many as 156 people (44.8%), then sigmoid as many as 70 people (20.1%), caecum as many as 34 people (9.8%), descending colon as many as 25 people (7.2%), transverse colon as many as 24 people (6.9%), 20 people ascending colon (5.7%), splenic flexure 12 people (3.7%) and hepatic flexure 6 people (1.7%). These results are supported by previous research conducted by Jiang et al. In 2019, those who received the most colorectal cancer locations in the rectum were 56.9%. Likewise, the research by Franke et al., 2017 which found the rectum as the location of the most cancer at 57.3%, which stated that the location of colorectal cancer was located in the sigmoid and rectum with the highest incidence (Franke, 2017).

For histopathological examination, the most found were adenocarcinoma as many as 202 people (58%), then mucinous adenocarcinoma as many as 67 people (19.3%), signet ring carcinoma as many as 25 people (7.18%), undifferentiated carcinoma as many as 23 people (6.61%), small cell carcinoma as many as 15 people (4.31%), squamous cell carcinoma as many as 10 people (2.87%) and adenosquamous carcinoma as many as 6 people (1.72%). This is in line with the results of research related to the histopathology of colorectal cancer patients by Ramos in 2017 where the most were obtained with adenocarcinoma descriptions of 74 people (91.4%).

Furthermore, the histopathological features of mucinous adenocarcinoma were found in 6 people (7.4%) and signet-ring cell carcinoma in 1 person (1.2%). A previous study conducted by Huang in 2021 which got the most histopathological picture in colorectal cancer patients was adenocarcinoma as much as 94.8%. The same research was also conducted by Suryanarayana et al. 2020 and got the most histopathological picture, namely adenocarcinoma as much as 52.9% (Suryanarayan., 2020; Huang et al., 2021).

In the management variable, 146 people (42%) underwent sigmoidostomy diversion, while the Hartman procedure in 65 people (18.7%), right hemicolectomy in 47 people (13.5%), right extended hemicolectomy in 32 people (9.2%), left extended hemicolectomy in 31 (8.9%), and left hemicolectomy in 19 (5.5%). This result is supported by a study conducted by Khan in 2019 which stated that surgery was the most common treatment with 21 people (60%). The main treatment for colorectal cancer is surgery, where the type of surgery performed depends on the stage of the cancer. The main purpose of surgery is to facilitate the digestive tract, both curative and non-curative. Another study by Schenider 2015 stated that in that study, the most common surgery performed for rectal cancer was abdominoperitoneal resection, because the majority of patients presented with localized advanced stage and low tumor location in the rectum (Joseph, Schneider and Case, 2015).

Conclusion

In this study, it was found that the gender of the respondents was found to be the most male as many as 202 people (58%), and female as many as 146 people (42%). The most common age category found in respondents aged 50-59 years was 143 people (41.1%). The most common location of cancer was found in the rectum as many as 156 people (44.8%), then sigmoid as many as 70 people (20.1%). For histopathological examination, the most common was undifferentiated carcinoma as many as 254 people (73%). A total of 146 people (42%) underwent diversion sigmoidostomy, while the Hartman procedure in 65 people (18.7%).

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