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## A Rare Case Report: 23-Year-Old Man with Ascending Colon Cancer with Napkin's Ring Appearance

Dwi Novia Lestari<sup>1</sup>, Mohammad Arifin<sup>2\*</sup>

Faculty of Medicine, Tarumanagara University, Jakarta<sup>1</sup>, Department of Surgery, RSUD RAA Soewondo Pati, Pati<sup>2</sup>

Email: arifin.spb@gmail.com

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KEYWORDS	ABSTRACT
Colorectal Cancer, Napkin's Ring, Laparotomy, Hemicolectomy	Colorectal cancer is a malignancy of the large intestine resulting from changes in the colon epithelial cells. Although incidence rates in developed countries have decreased due to improved screening and treatment, colorectal cancer remains a leading cause of cancer-related deaths globally. In Indonesia, colorectal cancer ranks as the third most common type, with a notably higher incidence among younger populations compared to developed nations. This case report focuses on a rare instance of ascending colon cancer in a 23-year-old man, a demographic less commonly affected by this condition. The purpose of this case report is to highlight the atypical presentation and management of colon cancer in a young adult, providing insights into diagnostic and therapeutic approaches in this context. The case was selected to underscore the differences in colorectal cancer presentation and management in younger patients, contrasting with more typical cases. The main findings include the patient's initial presentation with ascension colon cancer, the intervention of right hemicolectomy, and the subsequent significant improvement in his condition following treatment. This case emphasizes the importance of considering colorectal cancer in young patients presenting with gastrointestinal symptoms and highlights the need for awareness and timely intervention to improve outcomes. It suggests that even rare cases of colorectal cancer in younger individuals can be effectively managed with appropriate surgical and pharmacological therapy.

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DOI:

**Corresponding Author:** Mohammad Arifin\*  
**Email:** arifin.spb@gmail.com

### INTRODUCTION

Colon cancer is a malignancy that arises in the large intestine due to changes in the epithelial cells of the colon (Benson et al., 2017; Hinck & N athke, 2014; Irraz abal, Belcheva, Girardin, Martin, & Philpott, 2014; Testa, Pelosi, & Castelli, 2018). It, along with rectal cancer, ranks as the third most common cancer globally and is a leading cause of cancer-related mortality. Despite advances in screening and treatment in developed countries, colorectal cancer remains a significant health challenge worldwide. In 2018, there were approximately 1.8 million new cases of colorectal cancer (Rawla, Sunkara, & Barsouk, 2019; Rosa, de Jesus, de Mello, Cesar, & Correia, 2015). In Indonesia, the incidence is notably high among younger populations, with 51% of patients under 50 years old and 28.17% under 40 years old. This rise is potentially linked to Westernized lifestyles, particularly in urban areas.

Colorectal cancer is predominantly sporadic, accounting for about 70% of cases. Inherited genetic mutations contribute to 3% to 5% of cases, while 20% to 25% have a family history without identifiable genetic mutations. Symptoms of colorectal cancer vary depending on the disease stage. Early symptoms may include hematochezia, which might not alter stool appearance but can be detected through occult blood tests. As the disease progresses, symptoms may include bloody stools, intestinal

obstruction, abdominal mass, and systemic symptoms such as cachexia, anemia, and weight loss (Färkkilä et al., 2015; Mármol, Sánchez-de-Diego, Pradilla Dieste, Cerrada, & Rodriguez Yoldi, 2017).

Standard treatment involves surgical resection of the tumor, with the specific approach depending on tumor location and stage. Adjuvant chemotherapy is recommended for advanced cases, and systemic therapy is used for metastatic disease (Baxter et al., 2022; Biller & Schrag, 2021; Kannarkatt, Joseph, Kurniali, Al-Janadi, & Hrinczenko, 2017; Lombardi et al., 2010).

This case report aims to document the presentation and management of a 23-year-old man diagnosed with ascending colon cancer, from initial history taking through to the treatment administered.

## **METHOD**

Samples were taken from a 23-year-old man with Ascending Colon Cancer. The case is described using a descriptive case study method starting from history taking, physical examination, evaluation, and diagnosis to intervention management given to patients qualitatively (Ball, Miller, & Balogh, 2015; Bradshaw, Atkinson, & Doody, 2017; Lewis, Dirksen, Heitkemper, Bucher, & Camera, 2015).

## **RESULT AND DISCUSSION**

A 23-year-old patient came to the RAA Soewondo Pati Regional Hospital with a chief complaint of right abdominal pain for three days before hospital admission. The initial pain had been felt 8 months ago. The pain feels like being stabbed and it comes and goes. The pain feels worse with any kind of activity and gets better with rest. Since the abdominal pain, the patient had sought treatment at the clinic but the pain was still there and was getting worse. The symptoms were accompanied by nausea and vomiting, flatus (+), defecation (+), defecation (+) thick consistency no mucus and blood, but 4 months ago the stools were watery and accompanied by fresh blood. The patient had a history of dyspepsia and usually takes Proton Pump Inhibitor (PPI) medication to treat his stomach complaints. The patient also said that he often drank alcoholic drinks and smoked every day since he was a teenager.

From the physical examination, it was found that the patient appeared moderately ill, with blood pressure 120/80 mmHg, HR: 82x/minute, temperature: 36.6 C, and SpO<sub>2</sub>: 98%. Abdominal examination is flat, not distended, bowel sounds (+). On percussion tympanic, tapping pain (+) in the lumbar extra region, iliac extra, and on palpation tenderness (+) in the lumbar extra region, iliac extra. We also did a rectal toucher test. The anal sphincter tone is good, clamps firmly, the recti ampulla does not collapse, the mucosa feels smooth and warm, no mass can be felt when pushing, and there is no tenderness. There are no faeces on the gloves and no blood or mucus spots.

On further examination, an increase in leukocytes ( $17.6 \times 10^3 / \text{uL}$ ), a decrease in erythrocytes ( $3.0 \times 10^6 / \text{uL}$ ), a decrease in haemoglobin (10 g/dL), a decrease in hematocrit (32.3%), an increase in platelets ( $578 \times 10^3 / \text{uL}$ ), an increase in APTT were found. (54.1 seconds), decreased albumin (3.2 g/dL). On radiological examination, the colon in Loop found contrast agent entering through the anus filling the rectum to the ascending colon, passage of the contrast agent was slightly obstructed in the ascending colon, narrowing the ascending colon with irregular edges, napkin's ring type, haustra and incisura appeared good.



**Figure 1:** Intra Luminary Tumor Appears in the Ascending Colon



**Figure 2:** post hemicolectomy laparotomy

Then this patient was given therapy in the form of Ringer's Lactate: Futolit 1:1, meropenem injection 1gr/8 hours, metronidazole injection 500 mg/8 hours, esola injection 1x40 mg, pamol 3x500 mg then this patient underwent a right hemicolectomy laparotomy and after follow-up for a few weeks there was significant improvement.

Colon cancer is a malignancy that originates from the colon tissue, consisting of the colon (the longest part of the large intestine) and/or the rectum (the last small part of the large intestine before the anus). Together with rectal cancer, colon cancer occupies the third highest position in cancer incidence worldwide and is the third most common cause of death from cancer incidence worldwide.<sup>1,2,3</sup>

Epidemiologically, the incidence of colon cancer in several developed countries has decreased over the last few decades due to more optimal screening and treatment systems. However, colon cancer together with rectal cancer is still the third highest cause of death in cancer cases worldwide. In 2018 alone, there were 1.8 million newly diagnosed cases of colorectal cancer. <sup>4</sup> Globally, there were around 1.8 million cases of colorectal cancer reported in 2018 and this figure contributed 10.2% of the total cancer cases. The incidence varies quite widely between countries, with the highest rates reported in Australia and New Zealand, while the lowest rates are reported in South-Central Asia.<sup>1.4</sup> Colorectal cancer in Indonesia is the 3rd most common type of cancer with an incidence rate of 1.8 cases per 100,000 population. The characteristics of colorectal cancer patients in Indonesia are somewhat different from those in developed countries. In Indonesia, 51% of all sufferers are under 50 years old and 28.17% of patients are under 40 years old. The increasing number of colorectal cancers in Indonesia is thought to be related to the Westernized lifestyle of society, especially in big cities. <sup>5</sup> In this case, the patient was a 23-year-old man who had a fairly rare case, namely colorectal cancer.

Most colon cancers are sporadic (70%). The condition, with a known inherited genetic mutation, occurs in 3% to 5% of cases. About 20% to 25% of patients have a family history of colon cancer but no inherited mutation can be identified. Risk factors for colon cancer include the following; age: the average age of diagnosis of sporadic colon cancer is over 65 years, family history: colon cancer in family members increases a person's risk of developing the disease, inherited colon cancer-related mutations, adenomas on colonoscopy examination: the risk of cancer is most significant with villous adenomas and sessile serrated polyps, a history of inflammatory bowel disease (IBD), environmental and lifestyle factors: alcohol consumption, smoking, obesity, a diet rich in processed red meat, insulin resistance, a history of previous radiation, and immunosuppression all increase the risk of this malignancy.<sup>6,7,8</sup> In this case, the patient had a history of quite massive alcohol and smoking consumption, as well as an unhealthy lifestyle which may have caused the patient's risk of colon cancer to increase.

The pathophysiology of colon cancer, namely, begins when there is a transition from normal colonic epithelium to dysplasia involving genetic changes that accumulate over time, ultimately causing carcinoma. Colon cancer can develop through 3 main genetic pathways: chromosomal instability (CIN), MMR, and CpG island methylator phenotype (CIMP). These pathways do not stand alone but overlap with each other.<sup>9</sup> Types of colorectal carcinoma include polypoid, with the characteristics of growing protruding into the intestinal lumen in the shape of a cauliflower, usually appearing in the cecum and descending colon. Scirrhous colorectal cancer, with mass characteristics that can cause narrowing resulting in stenosis and symptoms of stenosis and symptoms of obstruction, is usually found in the descending colon, sigmoid and rectum. Ulcerative type is usually characterized by necrosis in the central part of the colon carcinoma which can cause malignant ulcers.<sup>3</sup> In this case, a radiological examination was carried out, the colon in Loop showed narrowing in the ascending colon with irregular edges, napkin's ring type, haustra and incisura looked good. This may be a type of Scirrhous type of colorectal cancer because there is visible narrowing and stenosis so there are symptoms of obstruction, which is characteristic of the Scirrhous type of colorectal carcinoma.

Early colorectal cancer often has no symptoms. As the disease progresses, the following symptoms will generally appear. The following are some of the symptoms that can arise, namely hematochezia: In small amounts of hematochezia, the stool generally does not show visible changes, but the stool occultation test can be positive; bloody stools, mucus, or jam-like stools may appear if there is a lot of blood in the stool. Intestinal obstruction: Often a feature of advanced colorectal cancer; abdominal tenderness, flatulence, nausea, vomiting, fatigue, and loose stools will occur if intestinal obstruction is caused by an enlarged mass. Abdominal mass: Usually occurs in right colon cancer; These symptoms include enlargement of the mass to a certain extent, a palpable abdominal mass. Systemic symptoms generally do not show obvious symptoms in the early stages, so the course of the disease is

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relatively long, causing tumour proliferation, cachexia, anaemia, weight loss and other symptoms. Due to the different anatomical and physiological functions of the colon and rectum, the clinical manifestations of tumours in different anatomical locations are also different. In general, abdominal masses and systemic symptoms are more common in right colon cancer, bloody stools and obstruction are more common in left colon cancer, and changes in bowel habits are more common in rectal cancer.<sup>10,11</sup> General physical examination should focus on signs of metastatic disease in all patients, with examinations adjusted to the patient's condition. A focused abdominal examination should be performed to evaluate tenderness, palpable masses, hernias, previous scars, and organomegaly. Rectal examination is essential and should not be missed in all patients with suspected gastrointestinal malignancy. In addition to checking for signs of malignancy, a rectal examination is also valuable in providing details about sphincter tone and continence.<sup>12</sup> In this case, the patient had experienced right-sided abdominal pain for 3 days before hospital admission. The initial pain had been felt 8 months ago. The pain feels like being stabbed and comes and goes. The pain feels worse with activity and gets better with rest. Since the complaints first appeared, the patient had sought treatment at the clinic but the complaints were still felt and were getting worse. Complaints accompanied by nausea and vomiting, flatus (+), urination (+), and bowel movements (+) of solid consistency. We also did a rectal examination test. The anal sphincter tone is good, clamps firmly, the recti ampulla does not collapse, the mucosa feels smooth, and warm, no mass can be felt when pushing, and there is no tenderness. There is no faeces on the gloves, and no blood or mucus spots.

In further evaluations, laboratory examinations can be carried out in the form of complete blood count, RFT, CEA (tumour marker substance), and disguised stool examination (benzidine test). Colon photo with barium/double contrast (Colon in the loop), endoscopy: Proctoscopy can see 8-10 cm from the anus, Rectosigmoidoscopy: 20-25 cm from the anus, Colonoscopy of the entire colon, looking at the more proximal side of the colon, biopsy. The sensitivity of colonoscopy is approximately 94.7% if performed by an experienced operator and with good bowel preparation. Ultrasound, abdominal CT scan, CXR are usually seen to see if there are metastases. PET/CT can be performed to detect primary cancer lesions, metastatic lesions, the extent of the lesion, and determine the stage. <sup>13</sup> In this patient, a supporting examination in the form of a complete blood test found an increase in leukocytes ( $17.6 \times 10^3 / \text{uL}$ ), a decrease in erythrocytes ( $3.0 \times 10^6 / \text{uL}$ ), decreased haemoglobin (10 g/dL), decreased haematocrit (32.3%), increased platelets ( $578 \times 10^3 / \text{uL}$ ), increased APTT (54.1 seconds), decreased albumin (3.2 g/dL). And a radiological examination in the form of a colon in loop was also carried out, it was found that the contrast agent entered through the anus and filled the rectum to the ascending colon, the passage of the contrast agent was slightly obstructed in the ascending colon, there was narrowing in the ascending colon with irregular edges, napkin's ring type, haustra and incisura looked good, there is an image of an intra-luminary tumor in the ascending colon.

Surgical resection is standard therapy for colorectal cancer. The type of resection, extent of lymphadenectomy and specific technique depend on the location and grade of the tumor. Adjuvant chemotherapy is indicated if severe colorectal cancer is present. Patients with metastases usually receive systemic therapy. Radiation therapy is rarely used Surgical intervention is essential in the management of colon cancer, addressing both the diagnostic and therapeutic aspects of the disease. The main goal of surgical procedures for colon cancer is to completely remove the tumor while maintaining optimal bowel function and minimizing complications. <sup>13</sup> Surgery for colon cancer resection can be performed laparoscopically or open surgically. Surgery is usually performed for localized colon cancer (stages I–III), but is also thought to have the potential to treat colon cancer with minimal liver or lung metastases (stage IV). <sup>1</sup> Medical treatment can include adjuvant, neoadjuvant, or palliative chemotherapy as well as administering biological agents or targeted therapy. Chemotherapy is recommended for stage III colon cancer patients and some high-risk stage II colon cancer patients. Patients who are at high risk are patients with <12 lymph nodes removed, poorly differentiated tumors, vascular/lymphatic/perineural invasion, or tumours with perforation or obstruction. Over the past two decades, the standard chemotherapy has been 5-fluorouracil combined with levamisole or leucovorin. This therapy has been proven to reduce cancer recurrence rates within 5 years and mortality rates by 30%. However, currently, there are also other effective regimens, such as oxaliplatin, capecitabine, and

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irinotecan. Biological therapy used for colon cancer is monoclonal antibodies that can fight vascular endothelial growth factor (VEGF) and epidermal growth factor receptor (EGFR), as well as kinase inhibitors and decoy receptors for VEGF. Examples are bevacizumab, cetuximab, aflibercept, panitumumab, and regorafenib.<sup>14,15,16</sup> In this case, the patient underwent treatment in the form of Ringer's Lactate: Futrolit 1:1, meropenem injection 1gr/8 hours, metronidazole injection 500 mg/8 hours, Isola injection 1x40mg, pamol 3x500 mg. In accordance with previous research, the main therapy is surgical treatment, which in this case was surgical therapy in the form of a hemicolectomy laparotomy.

## CONCLUSION

The conclusion from the above quote is that colon cancer is a type of cancer that originates in the colon or rectal tissue and is one of the cancers with the highest incidence and mortality rates in the world. Although the incidence of colon cancer in some developed countries has decreased thanks to more optimal screening and treatment systems, it remains the third highest cause of death from cancer in the world.

Risk factors for colon cancer include advanced age, family history, cancer-related genetic mutations, adenomas on colonoscopy examinations, history of inflammatory bowel disease, as well as environmental and lifestyle factors such as alcohol consumption, smoking, obesity, and unhealthy diet. The pathophysiology of colon cancer starts from normal colon epithelial changes to dysplasia which involves genetic changes that eventually lead to carcinoma.

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