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Case report: Clinical findings of Synchronous Adenocarcinoma Lesions in the Transverse and Ascending Colon in a Remote Area of Kaimana, West Papua

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ABSTRACT

Background: Synchronous colon cancer is a rare case; the prognosis tends to be poor, making diagnosis and management a challenge, especially in remote areas such as Kaimana, West Papua, with limited resources. Case ***Report:*** A 58-year-old man came with complaints of constipation and vomiting accompanied by unexplained weight loss. The patient had a history of digestive disorders for 5 years and was accustomed to consuming energy drinks with high frequency. During exploratory laparotomy, a tumor was found in the transverse colon, and a stoma was installed. The results of the colonoscopy biopsy showed adenocarcinoma with moderate differentiation in the ascending and transverse colon. The patient was managed with right hemicolectomy and, extended and end-to-end ileocolic anastomosis. After treatment, the patient showed improvement, and complaints improved. ***Discussion:*** A Highlight from this case is that this case is a rare case where the surgical management of synchronous colorectal cancer cases must be careful because there is a possibility of missing other small tumors. Extended hemicolectomy is the right choice considering the number of tumors, location, and limited resources in the hospital, with a high probability of success, so that it can improve the patient's prognosis. ***Conclusion:*** Early screening of gastrointestinal complaints and assessment of risk factors in patients will greatly help in establishing the diagnosis of colon cancer. Extended hemicolectomy is a good management option, especially in cases of low-grade synchronous tumors, especially in areas with limited resources.

Keywords: extended hemicolectomy; Kaimana; colorectal cancer; synchronous tumor

INTRODUCTION

Colorectal cancer is a disorder that occurs in the colon or rectum, and it is caused by abnormal proliferation of glandular epithelial cells in the colon [1]. Some tumor occurrences in colorectal cancer can be more than one. When more than 1 tumor is found, it can be defined as multiple primary tumors, which are distinguished based on the time period of discovery of the 2nd tumor. If the second tumor is found in a period of less than 6 months, it can be said to be a synchronous tumor, and if the second tumor is detected 6 months after the first tumor, it is said to be a metachronous tumor [2]. When compared to solitary tumors, synchronous colorectal carcinoma is a rare type of colorectal malignancy [3]. Synchronous colorectal carcinoma has a varying prevalence reported in the literature between 1%-9.3% of the total incidence of colon cancer [4].

The presence of synchronous colorectal cancer is associated with a worse prognosis in terms of overall survival, risk of recurrence, postoperative complications, and extra-gastrointestinal synchronous malignancies [4]. Poor prognosis tends to make early diagnosis and management important. Early screening and diagnosis not only reduce mortality and improve patient prognosis but also reduce health care costs. In addition to reducing mortality, colorectal cancer screening, such as CT colonography and FOBT, will also reduce the burden of costs incurred due to illness [5].

In Kaimana, West Papua, with health services that are still less than optimal, coupled with the lack of adequate equipment, a lack of experts, and low public awareness of health, screening, diagnosis, and management of patients with colorectal cancer are challenging.

This condition will certainly have a significant impact on the clinical outcomes of patients. Coupled with Kaimana's geographical situation, it is difficult to refer patients to more qualified health care facilities.

CASE REPORT

A 58-year-old male patient came to the emergency unit of Kaimana Hospital with complaints of intermittent abdominal pain in the lower right side, accompanied by vomiting every time he ate for 2 weeks before being admitted to the hospital. The patient also complained of not being able to defecate, but could still pass gas. The patient had a history of constipation for the past 5 years, and when he defecated, it was often liquid and mixed with blood. Complaints were accompanied by significant weight loss from 72 kg to 48 kg over 3 months before being admitted to the hospital for unknown reasons. The patient's lifestyle: the patient smoked 2-3 cigarettes a day, and often drank energy drinks up to 10 cans per day. On physical examination, the patient appeared weak, with the patient's vital signs within normal limits, and on abdominal examination, abdominal distension, increased bowel sounds, and tenderness were found in almost the entire abdominal area. Laboratory tests were performed, and hypoalbuminemia and electrolyte imbalance were found. Then an abdominal X-ray was performed, and the results showed air accumulation in the large intestine.

FIGURE 1: AP abdominal X-ray shows prominent air in the colon.

The patient was diagnosed with partial obstructive ileus. The patient was treated with decompression by nasogastric tube installation and fasting, followed by improvement of the patient's general condition. Three days after decompression installation, the patient showed no improvement. The patient continued to vomit, could not defecate and flatus, and the patient's abdomen was increasingly distended. Finally, we declared the patient a failure of conventional therapy with decompression, and an exploratory laparotomy was performed to determine the cause of the patient's ileus. When the laparotomy was performed, it turned out that there was a tumor in the middle area of the transverse colon and ascending colon. Because of the suspicion of malignancy, we finally chose to make an ileostomy first to handle the emergency, while looking for the possibility of malignancy, and performing a colonoscopy first.

FIGURE 2: Post-Laparotomy Exploration.

One month after surgery, the patient underwent a colonoscopy. During a colonoscopy, a tumor was found to fill part of the lumen in the transverse colon and ascending colon. Then, a biopsy was performed, with the result of adenocarcinoma with moderate differentiation.

FIGURE 3: Tumor partially covering the lumen of the ascending colon.

FIGURE 4: Tumor covering part of the transverse colon.

After the patient's general condition improved, the patient was finally discharged, with a plan to re-operate in 1 month to remove the tumor and take samples for pathological anatomy examination. After ensuring that there were no signs of metastasis. The following month, a laparotomy was finally performed with right hemicolectomy extended, accompanied by a biopsy of the transverse colon tumor for pathological anatomy examination and stoma closure. Before surgery, the patient fasted for 8 hours before surgery and 24 hours before surgery, the patient fasted from clear water first.

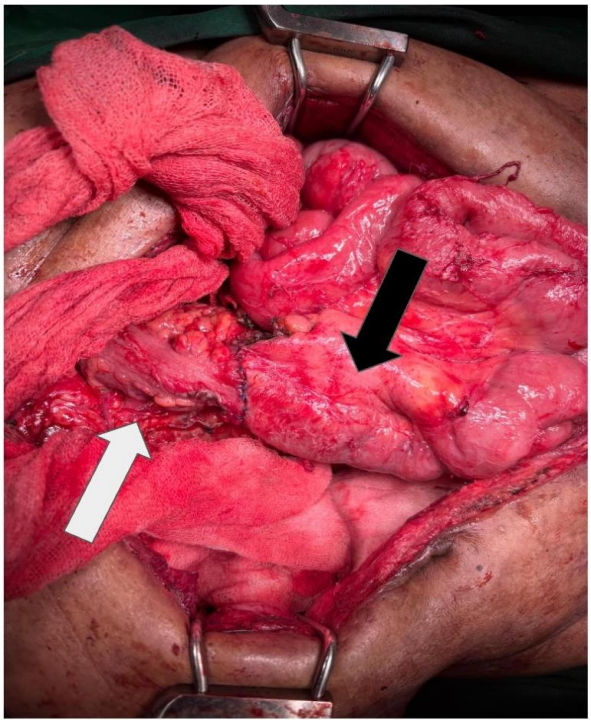

FIGURE 5: End-to-end ileocolic anastomosis (White arrow: Colon, Black arrow: Ileum).

FIGURE 6: Tumor specimen for pathological anatomy examination (White arrow: Stoma, black arrow: Ileum, black arrowhead: ascending colon, white arrowhead: transverse colon, star: Tumor).

FIGURE 7: Post-operative Right Hemicolectomy Extended with Ileocolic Artery Vascular Anastomosis.

After surgery, the patient was treated in the intensive care unit and given a gradual diet starting from sugar water, milk, strained porridge, and coarse porridge. On the 8th day, the patient started a soft rice diet and was discharged because the patient's condition had improved. Two months after surgery, the patient continued to show improvement; his weight, which was initially 43 kg, had increased to 58 kg, and the patient had no complaints. The results of anatomical pathology showed well-differentiated colon adenocarcinoma (pT2), without lymphovascular invasion. We finally diagnosed the patient as having multiple adenocarcinoma colon type synchronous in the ascending colon and transverse colon. This diagnosis was made based on the discovery of 2 tumors at 1 time.

FIGURE 7: Two months after surgery.

DISCUSSION

In a study conducted by Hossain et al. (2022), it was stated that environmental and genetic factors determine the risk of developing colorectal cancer [1]. In addition, the risk of developing colorectal cancer in patients with long-term ulcerative colitis and Crohn's disease increases with age. Several studies have shown that risk factors for colorectal cancer include diet and lifestyle, family history, and chronic inflammation. In this case, the patient did have long-term constipation that was often accompanied by blood. The patient had a habit of drinking energy drinks up to 10 cans per day and smoking.

In a study by Sinha et al. (2024), it was concluded that there was a correlation between increased levels of taurine, which is found in energy drinks, and colon cancer [6]. However, another study by Hou et al. (2021) had a different conclusion, where taurine plays a role in inhibiting the development of colorectal cancer [3].

Most recently, an ongoing study by Tim et al. (2024–2025) stated that hydrogen sulfide (H2S) producing bacteria, such as Bilophila wadsworthia, Fusobacterium nucleatum, and Atopobium parvulum, are normally minor components of the gut microbiota but are over-represented in CRC, associated with inflammation, and may promote a pro-carcinogenic environment [7]. These bacteria prefer to use taurine, an essential amino acid, as their primary energy source, which, in energy drinks, is typically high in taurine. They hypothesized that high levels of taurine in energy drinks may exacerbate CRC risk by increasing the growth and metabolic activity of pre-existing H2S-producing bacteria, contributing to increased eoCRC.

Based on the research of Huang et al. (2022), it was concluded that smoking is associated with a significantly increased risk of death in patients with colon cancer [8]. Smoking status can be in the stratification of colon cancer risk, and smoking cessation can be included in comprehensive care planning for patients with colon cancer. Thus, in this case, the patient did have some risky behaviors that could trigger colon cancer in the patient.

Compared with solitary colorectal carcinoma, synchronous carcinoma appears to involve the proximal part of the colon more often, especially the ascending colon. Possible explanations for this phenomenon are prolonged asymptomatic periods in the right colon and/or a history of hereditary bowel disorders [9]. In this case, the finding of a tumor in the proximal colon is in accordance with the theory, and the patient did have long-standing digestive disorders and had never been examined by a doctor, and the patient also had symptoms that did indicate problems with the ascending colon, such as weight loss, loose and bloody stools.

For decades, colonoscopy has been considered the best modality for detecting synchronous colon cancer. Colonoscopy has a sensitivity of 91% and a specificity of 94%, the highest for detecting cancer and pre-malignant adenomas, and other colonic diseases. If obstruction occurs, barium enema should be continued. Currently, CT colonography is recommended for the evaluation of the entire colon, especially for detecting synchronous lesions in the proximal colon [9]. In line with this study, complete colonoscopy may not be able to detect synchronous colorectal carcinoma in all patients before surgery due to the presence of synchronous carcinoma proximal to the stenosed colorectal carcinoma. In addition, synchronous carcinoma can also be missed when performing a colonoscopy because of its small size or proximity to the primary cancer [10]. In this case, the patient only underwent a colonoscopy examination, considering that Kaimana Hospital does not have a CT-Scan facility. Fortunately, the tumors on the distal and proximal sides did not experience total obstruction, so we could still evaluate the proximal side, but it is still very possible that we missed a small tumor during the examination.

Surgery is the standard treatment procedure for colon cancer, especially for stages 0 to II. Higher stages will require adjuvant therapy or chemotherapy and targeted therapy in addition to surgery [1]. In cases of tumors in the transverse colon, a study by Li et al. (2021) explained that the transverse colectomy procedure had a lower percentage compared to extended colectomy; in other words, extended colectomy is the preferred choice in the management of patients with transverse colon cancer [11]. In cases of multiple tumors like this case, in a study by Lam et al. (2014), it was explained that extensive surgery is needed for patients with synchronous colorectal cancer with known predisposing factors such as familial adenomatous polyposis, ulcerative colitis, or HNPCC. For other cases, appropriate surgical resection with follow-up colonoscopy is recommended. If one of the synchronous cancers is an early-stage colorectal cancer, colonoscopic resection

(endoscopic mucosal resection or endoscopic submucosal resection) may be used. Otherwise, a double colon resection may be required if the synchronous cancer is distant and at an advanced stage. Depending on available resources, lifelong clinical follow-up of some patients with synchronous colorectal cancer may be recommended [10].

The management of synchronous colon cancer is recommended for surgical resection. Difficulty in identifying lesions during colectomy can lead to changes in resection from the initial plan, especially when synchronous lesions are found, because failure to detect synchronous tumors will result in inadequate therapeutic management. In this case, laparotomy with right hemicolectomy was performed after synchronous colorectal cancer was confirmed by colonoscopy in the ascending colon. Some surgeons suggest that subtotal/total colectomy should be performed even when synchronous lesions are in separate segments. The reason is to avoid the high risk of anastomotic leakage, follow-up examinations, re-interventional surgery, and a worse overall prognosis [9].

In addition, a study by Wraps et al. (2021) revealed that synchronous bilateral cancers most often underwent subtotal colectomy/proctocolectomy and experienced adverse complications at 30 days postoperatively. While other surgeons performed two separate resections with two anastomoses to maintain normal colon length and to avoid diarrhea after subtotal colectomy [9].

In terms of perioperative and oncological outcomes, transverse colectomy and extended colectomy did not differ despite shorter specimen length and fewer lymph nodes removed in the transverse colectomy group [12]. In this case, the right hemicolectomy extended surgical technique was chosen appropriately, this is because the tumor position is right in the middle of the transverse colon and the ascending colon. In addition, the choice of this management can be said to be appropriate considering that synchronous tumors are more likely to experience local tumor recurrence within three years, and there is a possibility of missing small tumors during colonoscopy [13].

Postoperative care and prognosis in patients with colon cancer are greatly assisted by pathological evaluation of tumor resection material. Patients with colon cancer require high-quality pathology reports to receive an accurate prognosis and guidance for patient management [1]. The prognosis of transverse colon cancer is usually poor due to lymph node metastasis that will occur in the superior and inferior mesenteric artery branches, especially splenic flexure cancer, and the risk of surgery that can endanger the surrounding peripheral vital organs [11]. In this case, the patient's prognosis tends to be still doubtful, with a good tendency, although there are no signs of metastasis in the surrounding lymph nodes, there is still a possibility of recurrence within 3 years. However, the patient's clinical improvement indicates the success of the treatment that has been carried out; further monitoring is needed for the patient.

CONCLUSION

Synchronous colorectal cancer in the ascending and transverse colon is a rare case, where early diagnosis and management are important to prevent metastasis. Early screening of gastrointestinal complaints and assessment of risk factors in patients will greatly assist in establishing the diagnosis. Failure to detect synchronous tumors will result in inadequate therapeutic management, which will worsen the prognosis. Extended hemicolectomy is a good treatment option, especially in cases of low-grade synchronous tumors, especially in areas with limited resources.

Conflict of Interest

The author declares that there is no conflict of interest related to the publication of this research article.

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Ethics

Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

REFERENCES

[1] Hossain MdS, Karuniawati H, Jairoun AA, Urbi Z, Ooi DJ, John A, et al. Colorectal Cancer: A Review of Carcinogenesis, Global Epidemiology, Current Challenges, Risk Factors, Preventive and Treatment Strategies. Cancers (Basel) 2022; 14:1732. https://doi.org/10.3390/cancers14071732.

[2] Pan S-Y, Huang C-P, Chen W-C. Synchronous/Metachronous Multiple Primary Malignancies: Review of Associated Risk Factors. Diagnostics 2022; 12:1940. https://doi.org/10.3390/diagnostics12081940.

[3] Hou X, Hu J, Zhao X, Wei Q, Zhao R, Li M, et al. Taurine Attenuates the Hypotaurine-Induced Progression of CRC via ERK/RSK Signaling. Front Cell Dev Biol 2021;9. https://doi.org/10.3389/fcell.2021.631163.

[4] Carlin L, Paudice M, Ingaliso M, Pigozzi S, Trevisan L, Sciallero S, et al. Synchronous and metachronous primary colorectal cancers with concordant and discordant mismatch repair status. Hum Pathol 2023; 141:54–63. https://doi.org/10.1016/j.humpath.2023.09.003.

[5] Lansdorp-Vogelaar I, Knudsen AB, Brenner H. Cost-effectiveness of Colorectal Cancer Screening. Epidemiol Rev 2011; 33:88–100. https://doi.org/10.1093/epirev/mxr004.

[6] Sinha A, Griffith L, Acharjee A. Systematic Review and Meta-Analysis: Taurine and Its Association with Colorectal Carcinoma. Cancer Med 2024;13. https://doi.org/10.1002/cam4.70424.

[7] Jang T, Kahramangil D, Lee J-H, Kim GP, Rogers SC, Sahin I, et al. Randomized study to assess colonic microbiome changes in response to energy drink consumption (ROSANNA trial). Journal of Clinical Oncology 2024;42: TPS3630–TPS3630. https://doi.org/10.1200/JCO.2024.42.16_suppl.TPS3630.

[8] Huang Y-M, Wei P-L, Ho C-H, Yeh C-C. Cigarette Smoking Associated with Colorectal Cancer Survival: A Nationwide, Population-Based Cohort Study. J Clin Med 2022; 11:913. https://doi.org/10.3390/jcm11040913.

[9] Manalu EPA, Petrus G. Synchronous colorectal cancer: a case report. International Surgery Journal 2023; 10:1680–3. https://doi.org/10.18203/2349-2902.isj20232994.

[10] Lam AK-Y. Synchronous colorectal cancer: Clinical, pathological and molecular implications. World J Gastroenterol 2014; 20:6815. https://doi.org/10.3748/wjg.v20.i22.6815.

[11] Li C, Wang Q, Jiang K-W. What is the best surgical procedure of transverse colon cancer? An evidence maps and minireview. World J Gastrointest Oncol 2021; 13:391–9. https://doi.org/10.4251/wjgo.v13.i5.391.

[12] Chong CS, Huh JW, Oh BY, Park YA, Cho YB, Yun SH, et al. Operative Method for Transverse Colon Carcinoma: Transverse Colectomy Versus Extended Colectomy. Dis Colon Rectum 2016; 59:630–9. https://doi.org/10.1097/DCR.0000000000000619.

[13] Warps AK, Detering R, Dekker JWT, Tollenaar RAEM, Tanis PJ. A 10-Year Evaluation of Short-Term Outcomes After Synchronous Colorectal Cancer Surgery: a Dutch Population-Based Study. Journal of Gastrointestinal Surgery 2021; 25:2637–48. https://doi.org/10.1007/s11605-021-05036-8.