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A Rare Case of Metachronous Carcinoma at the Colostomy Site Following Abdominoperineal Resection – Case Report

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Abstract

Carcinoma developing at the colostomy site following an abdominoperineal resection (APR) is an extremely rare event, with only a small number of instances documented in the available literature. In the absence of biopsy confirmation, such growths can often be mistaken for conditions such as hyperplasia or granulation tissue, especially at the stoma edges, complicating the diagnosis. We describe a unique case of a man in his late 50s who underwent an abdominoperineal resection due to rectal cancer and, 12 years later, presented with a growth at his colostomy site, with no evidence of metastasis. As there were no distant metastases, segmental resection of the colon, including a 2 cm skin margin, along with a colostomy revision, was performed, followed by a plan for adjuvant treatment. Although tumors at colostomy sites are infrequent, regular and thorough examination of the stoma during follow-up is essential, and early biopsy and colonoscopy should be considered when suspicious growths appear. For these types of cases, segmental colonic resection with an adequate margin and subsequent adjuvant therapy is considered the most effective approach.

Keywords: Segmental colonic resection, Abdominoperineal resection, Metachronous carcinoma, Stomal site growth

Introduction

Growths appearing at the colostomy site are an infrequent occurrence in clinical settings [1]. These growths may sometimes be mistaken for hyperplasia or granulation tissue along the edges of the stoma, creating challenges in diagnosis when a biopsy is not conducted [2]. Because such incidents are rare, there is no established understanding of their causes or a standardized treatment approach. This case report discusses a man in his late 50s who, 12 years after undergoing abdominoperineal resection (APR) for rectal cancer, developed a growth at the colostomy site, without evidence of distant metastasis.

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Case report

A man in his late 50s, with an ECOG performance score of 1, had previously undergone APR for rectal carcinoma, with tumor margins considered microscopically clear (pT3N0M0). Following surgery, he received adjuvant chemoradiation but did not attend follow-up appointments. 12 years post-surgery, he sought medical attention for a hard growth at the colostomy site, which had been present for the past 8 years, though he had not previously consulted a healthcare provider. The patient did not report any abdominal discomfort, bloating, reduced stomal output, or bleeding from the mass. He had no family history of cancer. On examination, a firm, non-constricting, nodular mass was observed at the stoma between the eight and three o'clock positions **(Figure 1)**.

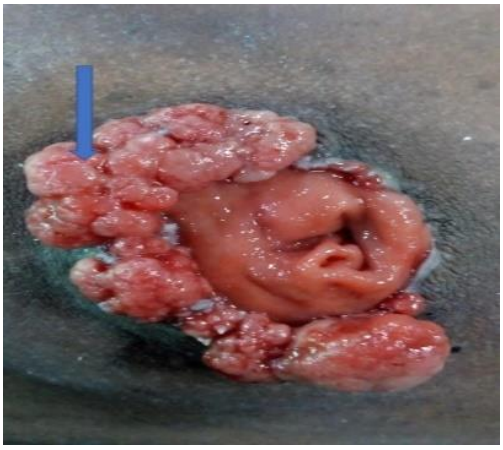


Figure 1. Irregular, polypoidal, circumferential, nodular growth arising from the sigmoid colostomy

A biopsy performed on the lesion confirmed the diagnosis of adenocarcinoma. The patient's routine blood tests, including liver and kidney function, returned normal results. A colonoscopy was performed, and no other lesions were found. Imaging through contrast-enhanced computed tomography (CECT) of the abdomen and pelvis, along with a PET scan, revealed no evidence of metastatic disease **(Figure 2)**. Given the isolated nature of the growth at the colostomy site and the absence of metastasis, a decision was made in consultation with the oncology team to proceed with surgery. The patient underwent exploratory laparotomy, where the first 5 cm of the proximal colon and mesocolon were resected, along with a 2 cm circumferential skin margin. The colostomy was revised as part of the procedure **(Figure 3)**. Intraoperative examination revealed no signs of ascites, no enlarged lymph nodes, and no metastasis in the abdominal organs or peritoneum.

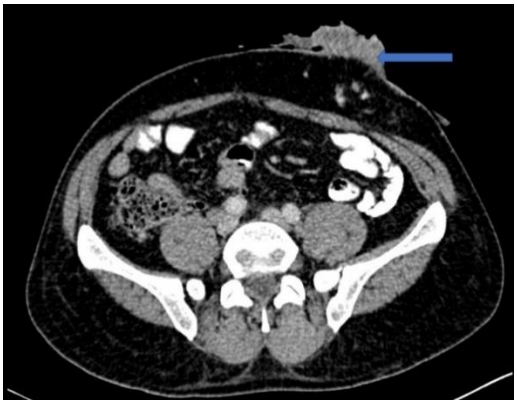
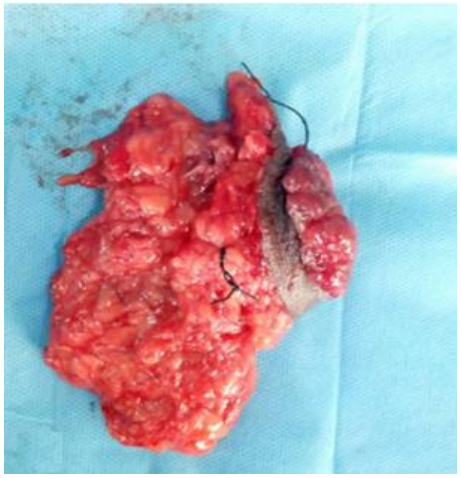
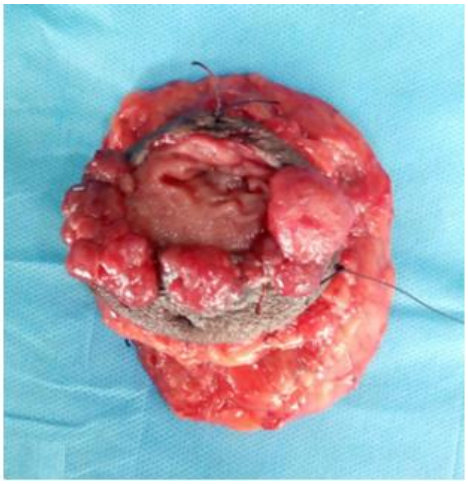


Figure 2. CECT abdomen showing stomal growth



a)



b)

Figure 3. (a and b): Specimen following wide local excision of the stoma, including a two cm circumferential skin margin and a 5 cm colonic margin.

Histopathological analysis after surgery confirmed the presence of adenocarcinoma with signet ring cell features (pT2N0M0), and all surgical margins were clear of malignancy. The plan for adjuvant chemotherapy was delayed for over one year because of the pandemic. Upon completing one year post-surgery, a CT scan revealed a mass in the left pelvic region, involving the left external iliac artery. In response, the patient received palliative chemoradiotherapy, including six cycles of oxaliplatin and capecitabine, followed by 20Gy of radiation directed at the pelvis. At present, the patient's condition has improved, with follow-up imaging indicating a significant shrinkage of the nodal mass. The patient will continue with follow-up care, which includes a CT scan and colonoscopy one year later.

Results and Discussion

The occurrence of metachronous colonic carcinoma is approximately 2%, while metachronous adenocarcinoma at the colostomy site remains an infrequent finding [1]. To date, no established consensus or protocol has been developed for managing such cases.

Clinically, growth at the stoma site can present with symptoms such as bruising, bleeding, progressive enlargement of the stoma requiring a larger bag, strictures, obstruction at the stoma site, peristomal rash, and ulceration [2]. Several theories have been proposed to explain the origin of growth at the colostomy site, including local recurrence due to insufficient margin clearance, metachronous carcinoma, or metastasis to the colostomy area. Metachronous carcinoma at the stoma site generally arises four to thirty years after the initial resection of the primary tumor [3]. Various mechanisms have been suggested in case reports regarding the formation of metachronous carcinoma at the stoma, including the adenoma-carcinoma sequence (especially when polyps are present), de novo metaplasia without adenomas, the reflux of cancer cells after an ablative procedure, seeding of the colonic growth after decompression, stimulation by bile acids, and persistent physical trauma at the stomal site due to stool exposure [4, 5]. Another theory suggests that micro-metastasis left behind in the lymph nodes along the inferior mesenteric artery pedicle during the APR might contribute to such occurrences [6]. In the present case, the recurrent pelvic nodal mass may be due to micro-metastasis originating from the colostomy site, which was not detected in the preoperative PET CT scan.

The rare nature of stomal site adenocarcinoma may result in diagnostic delays. There are reports in the literature of two cases where stoma obstruction was conservatively managed using manual or finger dilation for up to a year before a carcinoma diagnosis was confirmed through biopsy [3, 5]. In the present case, the growth at the stoma appeared 4 years after the primary tumor resection, but the patient presented only eight years later when the stoma bag size had to be increased. A delayed diagnosis can have severe consequences, highlighting the need for stoma care nurses and patients to be aware of such rare occurrences. Moreover, a low threshold for performing a biopsy should be maintained in cases of suspicious stoma symptoms, such as obstruction.

A review of existing literature reveals no definitive treatment approach for carcinoma at the stoma site. The prognosis for these patients is generally poor, with a median survival of thirty months and a range of 6 to 84 months [4, 6]. A case review by Davey and McCarthy [4] of ten such instances suggests that segmental colon resection with revision colostomy, followed by adjuvant therapy, is the preferred approach. Additionally, lymph node dissection is recommended to reduce recurrence by removing the remaining microcarcinoma present in the lymph nodes.

Conclusion

The incidence of carcinoma at the colostomy site is quite rare, but it highlights the importance of regular and thorough monitoring during follow-up visits. Early detection through biopsy and colonoscopy is strongly advised if any abnormalities are suspected. It is crucial to raise awareness among both healthcare professionals and patients regarding the potential for unusual growth at the stoma site, as early recognition can significantly improve outcomes. In such cases, the most effective treatment approach involves performing a segmental resection of the affected colon, ensuring a sufficient margin of surrounding tissue, and following up with adjuvant treatments as necessary.

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