



Case Report

Small Bowel Obstruction Caused by Metastasis of Nasal Cavity Basal Cell Adenocarcinoma

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Abstract

We report the case of a 68-year-old male with mechanical small bowel obstruction complicated by metastasis of nasal cavity basal cell adenocarcinoma (BCAC). The initial presentation included intermittent abdominal cramping pain and postprandial vomiting. We performed diagnostic laparoscopy under the impression of small bowel obstruction and noticed a tumor located at the terminal ileum. Tumor excision and end-to-end intestinal anastomosis were performed, and pathology reports confirmed the diagnosis of metastatic BCAC. A literature review revealed that small bowel metastatic tumors are rarely caused by BCAC, and that distant metastases of BCAC are also rare. Being aware of this rare disease may lead to an earlier correct diagnosis of small bowel obstruction due to a metastatic tumor.

Keywords: Basal cell adenocarcinoma, ileus, nasal cavity cancer, small bowel obstruction

INTRODUCTION

Small bowel malignancies are rare entities, accounting for 1%–2% of all gastrointestinal neoplasms.^[1,2] Metastatic neoplasms are more common than primary small bowel neoplasms. Common primary malignant tumors that tend to metastasize in the small intestine are primarily colorectal cancers; however, melanoma and cancers of the prostate, lung, kidney, and breast have also been reported.^[3–5] To date, there are no reports of basal cell adenocarcinoma (BCAC) behaving in this way in the small bowel. BCAC mainly occurs in the parotid gland (90%), although some cases

have been reported in minor salivary glands such as in the palate, nasal cavity, buccal mucosa, mouth floor, and upper lip.^[6–12] Most cases occur between 60 and 70 years of age with no gender predominance.^[6] It generally behaves as a low-grade tumor with a high rate of local recurrence (41%), rare locoregional metastasis (11%), and even rarer distant metastasis.^[7] We herein report a case of nasal cavity

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BCAC with metastasis to the scalp, brain, small bowel, and sacrum.

CASE REPORT

A 68-year-old male presented with intermittent abdominal cramping pain for 1 month, which was aggravated several hours after meals and accompanied by postprandial vomiting. Relevant past medical history included left nasal cavity BCAC, metastases to the scalp, right occipitotemporal lobe of the brain, and anal margin. The nasal and scalp lesions were treated with complete resection 2 years and 1 year before this presentation, respectively. The brain lesion was treated with wide resection and local radiotherapy 1 year before this presentation. The perianal lesion was treated with incomplete resection followed by local radiotherapy 1 month before this presentation.

A physical examination revealed a distended but nontender abdomen. Abdominal computed tomography demonstrated marked dilatation of multiple small bowel loops with a collapsed distal ileum and colon, indicating small bowel obstruction; no gross organic lesions were found around the transitional zone [Figure 1]. In addition, multiple small para-aortic and mesenteric lymph nodes were found, raising awareness of metastasis.

Diagnostic laparoscopy was performed, and a semi-circumferential white firm tumor measuring 1.7 cm × 1.6 cm × 1.1 cm at the ileum was identified, causing a transitional point with proximal dilatation and distal collapse of the small bowel. No other intestinal tumors, ascites, or peritoneal seeding were detected. Due to obstruction, we resected the tumor with a 7-cm long segment of the ileum and performed end-to-end anastomosis using a mini-laparotomy approach [Figure 2]. A histopathological examination of the resected specimen revealed small intestinal tissue with nests of hyperchromatic and pleomorphic neoplastic cells arranged in a solid pattern. The tumor involved only the muscular layer, and the mucosa was not involved. Immunohistochemical staining showed immunoreactivity for p40, CK5/6 and CD56, and negative staining for CK7, CK20, synaptophysin, and chromogranin A [Figure 3a and b]. These findings were consistent with metastatic BCAC from the patient's previous primary nasal cavity tumor [Figure 3c]. The surgical margin was free of tumor cells.

The postoperative period was smooth, and the patient recovered well with an apparent resolution of ileus. After 1 year of follow-up, recurrent tumors at the bilateral parieto-occipital junction of the brain and metastatic tumors involving the sacral bone were revealed under magnetic resonance imaging. In addition, two hepatic metastases in S5 and S7 segments with multiple lung metastases developed at the same time. Palliative treatment including immunotherapy and chemotherapy were suggested, but the patient refused further treatment. He passed away 14 months after the operation.

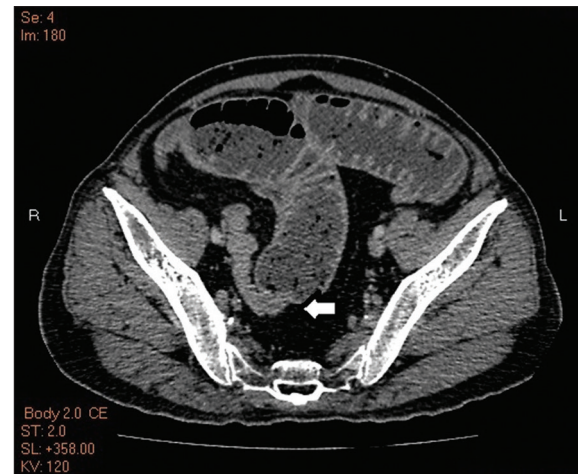


Figure 1: Abdominal computed tomography showing marked dilatation of proximal small bowel loops with a collapsed distal ileum and colon indicating small bowel obstruction; no gross organic lesions were found around the transitional zone (white arrow)

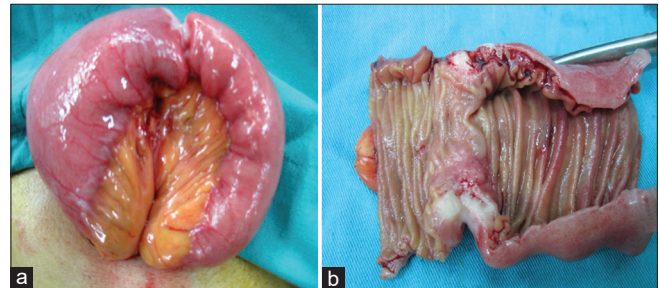


Figure 2: (a) A transitional point was identified and showed proximal dilatation of the ileum. (b) The tumor was semi-circumferential in shape and caused partial obstruction of the ileus

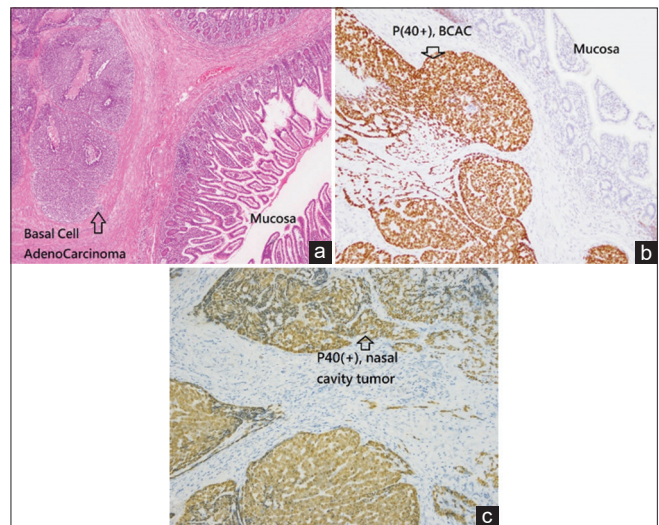


Figure 3: Basal cell adenocarcinoma of the ileum. (a) ×40, h and e staining showed nests of basal cell carcinoma. (b) ×100, P40 strongly positive for immunohistochemistry staining, intestinal tumor. (c) ×100, P40 strongly positive for immunohistochemistry staining, nasal cavity tumor

DISCUSSION

Small bowel malignancies are rare entities, representing 1%–2% of all gastrointestinal neoplasms.^[1,2] The rare incidence may be attributed to its liquid contents, relatively rapid transit time, and lower production of carcinogens causing less mucosal irritation compared to the colon. Moreover, a high level of IgA secretion owing to an elaborate lymphoid tissue network is also an important protective factor.^[13,14] Metastatic neoplasms are more common than primary small bowel neoplasms. Common primary malignancies that tend to metastasize in the small bowel mostly arise from colorectal cancers; however, melanoma and cancers of the prostate, lung, kidney, and breast have also been reported.^[3–5] To date, there are no reports of nasal cavity BCAC behaving in this fashion with metastasis to the small bowel.

BCAC was first described in 1974^[15] and first recognized as an infiltrative epithelial neoplasm by the World Health Organization in 1991.^[16] Before this, such tumors were reported as malignant basal cell adenoma, malignant basaloid tumor, hybrid basal cell adenoma/adenoid cystic carcinoma, atypical monomorphic adenoma, and basaloid salivary gland carcinoma.^[16–20] BCAC mostly occurs in the parotid gland (90%),^[6] while some cases have been reported in minor salivary glands such as in the palate, nasal cavity, buccal mucosa, mouth floor, and upper lip.^[7–12] Most cases arise between the ages of 60 and 70 years and with no gender predominance.^[6] Pathologic patterns are classified into four major types: Solid, membranous, tubular, and trabecular. A solid pattern is the most common type and most likely to present with perineural invasion.^[21,22] BCAC generally behaves as a low grade tumor with a high local recurrence rate (41%), rare locoregional metastasis (11%),^[7] and a 95% 5-year survival rate.^[6,23] Surgical resection with a wide margin is the optimal treatment due to its high recurrence rate. Furthermore, postoperative radiation should be given to those with close or positive margins.^[22,23] Distant metastasis has rarely been reported, with a few cases reported as metastasis to the lung, skin, and hand.^[6,24–26] In a study of metastatic BCAC from a primary tumor site mainly located in the head-and-neck region, inadequate resection and radiotherapy of the primary tumor were found to potentially increase the risk of metastasis.^[27] In addition, the depth of invasion of the primary tumor contributed to distal metastasis. In another study of metastatic BCAC, blood vessel invasion and perineural invasion were found to be evident in the primary lesion.^[28] Therefore, the hematogenous spread of BCAC from the nasal cavity to the ileum is a relatively reasonable explanation in our case.

To the best of our knowledge, this is the first reported case of a nasal cavity BCAC with multiple metastases presenting as small bowel metastasis and obstruction. This case report and literature review suggests that a surgical approach is appropriate for solitary metastatic small bowel tumors in patients with good functional status. Available treatment modalities include palliative bypass procedures or excisional

resection. Since BCACs are believed to be indolent and rarely cause death, aggressive surgical intervention to resolve small bowel obstruction may be an optimal choice to improve the quality of life. Although there are only a few reported cases of metastatic BCACs, the possibility of multiple metastases should always be kept in mind. Awareness of this rare disease may assist in making an earlier correct diagnosis of small bowel obstruction caused by a metastatic tumor.

Ethical approval and declaration of patient consent

This study is approved by the IRB of Mackay Memorial Hospital (IRB approval number: 20MMHIS074e). The patient consent was waived by the IRB.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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