

Isolated scapular metastasis of rectal cancer: Report of a case

ABSTRACT

Colorectal cancer is estimated to be the third most diagnosed cancer and the second most common cause of cancer death worldwide. Although the liver and lungs are the most common sites of metastatic spread of colorectal carcinoma, other locations of metastasis have been reported, such as the skin, bone, muscle, brain, and thyroid gland. We aimed to present a 54-year-old woman diagnosed with isolated scapula metastasis of rectal cancer who received multidisciplinary treatment.

KEY WORDS: General surgery, neoplasm metastasis, orthopedics, rectum, scapula

INTRODUCTION

Colorectal cancer (CRC) is estimated to be the third most diagnosed cancer and the second most common cause of death due to cancer worldwide.^[1] Metastatic spread from CRC occurs through both lymphatic and hematogenous routes.^[2] Although the liver and lung are the most common sites of metastatic spread of CRC, other sites of metastasis have been reported, such as the skin, bone, muscle, brain, and thyroid gland.^[3] The most common sites for bone metastases of CRC are the spine, pelvis, and sacrum.^[4] Given the much higher survival rate for tumors of earlier stages compared to advanced stages, CRC screening is crucial for reducing the morbidity and mortality of the disease.^[5] Bone metastasis of CRC, which is associated with poor prognosis, is an uncommon (4–6%) and late manifestation of the disease.^[6] The prognosis of rectal cancer is strongly related to certain factors, including the depth of tumor invasion to the rectal wall, the number of metastatic lymph nodes, extramural venous invasion, and involvement of the mesorectal fascia and peritoneum.^[7] Surgical resection should be the first choice of treatment for early-stage T1-T2 rectal cancers. In the presence of T3 and/or N(+) cancer stages, surgery is planned after neoadjuvant chemoradiotherapy. Surgical resection is also indicated for local control of the disease, in case of solitary metastases with a long expectancy of survival.^[8] Although chemoradiotherapy in addition to radical colorectal surgery remains to be the main treatment for metastatic CRC, removal of a solitary metastatic

lesion is yet recommended in case it provides the potential for margin-negative/R0 resection.^[9]

CASE REPORT

A 54-year-old female patient, with no family history of CRC, presented with rectal bleeding ongoing for 1 month. An anorectal examination of the patient revealed a rectal mass located 4 cm above the anal verge and extending to the anal canal. After having obtained the consent form of the patient, colonoscopy was performed which revealed a partially obstructive ulcerovegetative tumor starting from the level of the anal canal and continuing for 5 cm below the obstruction [Figure 1]. Laboratory investigations showed findings of anemia, yet the carcinoembryonic antigen levels were within normal range. Histopathological examination of the colonoscopic biopsy revealed that the lesion was a signet cell adenocarcinoma, and magnetic resonance imaging (MRI) showed an asymmetrical rectal wall thickening along a 10 cm segment in the defined region in colonoscopy, thickenings in the perirectal regions and nodular lesions [Figure 2]. The stage of the tumor was determined as T3 N(+) and the patient was referred to the oncology clinic. Before oncological treatment, a 1 cm sized right scapular lesion with

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significant fluorodeoxyglucose (FDG) activity was observed at positron emission tomography—computed tomography (PET/CT) scan [Figure 3]. Following the verification of the lesion which was located on the inferior angle of the right scapula via MRI, the patient was operated on by the orthopedics department [Figure 4]. The scapular metastatic lesion was surgically removed, and the frozen section study confirmed margin-negative resection. According to the postoperative histopathological examination, the lesion was determined to be a bony metastasis of the signet ring cell type. Following neoadjuvant chemoradiotherapy, the patient underwent abdominoperineal resection for low rectal cancer extending to the anal canal. She was discharged after an uneventful early postoperative period and continues receiving adjuvant treatment during her follow-ups.

DISCUSSION

More than one million new cases of CRC are reported worldwide each year, and the mortality rates are approximately 8.1 per 100,000 people.^[3] Metastatic spread from rectal cancer occurs through both lymphatic and hematogenous routes. Because of

venous drainage from the superior hemorrhoidal vein to the portal system, the liver is the most common site of distant metastasis from rectal cancer. Systemic drainage from the inferior hemorrhoidal plexus to the inferior vena cava may lead to lung and bone metastases.^[2] Bone is a common site of metastasis of malignant solid tumors. Eighty percent of metastatic bone tumors originate from prostate, breast, kidney, lung, and thyroid cancers.^[10]

The most common sites for bone metastases of CRC are the vertebrae, pelvic bones, and sacrum.^[4] The most likely route for a skeletal spread in CRC is through the Batson plexus, which is a valveless vascular system that drains into the spine and is thus the most common site for skeletal metastasis. Other common sites include the skull, pelvis, femur, and humerus.^[5]

Although solitary bone metastases of CRC are rare, literary reviews suggest that bone metastasis as a cause of bone pain in patients with CRC should be considered even in the absence of visceral metastases.^[4] Bone metastasis of CRC is a rare (4–6%) and a late manifestation associated with poor prognosis. The 5-year survival rate of CRC patients with bone metastases is



Figure 1: Colonoscopic view of the distal rectal ulcerovegetative tumor extending to the anal canal



Figure 2: MRI view of an asymmetrical rectal wall thickening

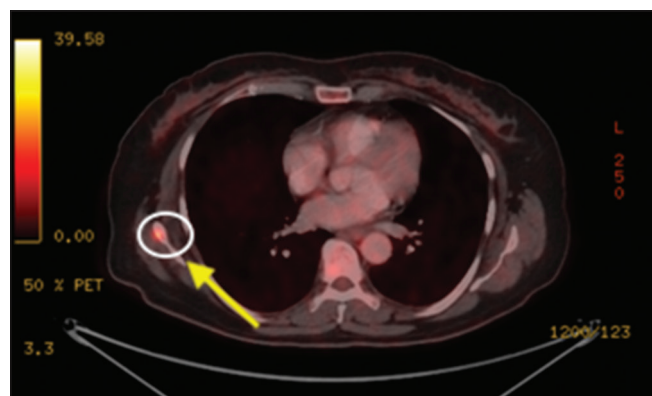


Figure 3: PET CT scan view of a right scapular lesion with 1 cm diameter with significant FDG activity

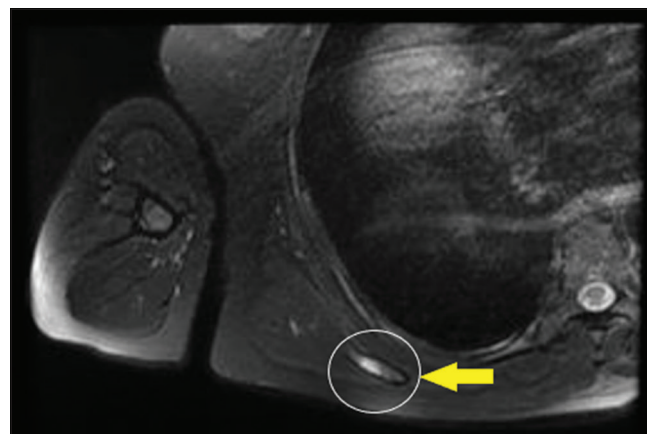


Figure 4: MRI view of the metastatic lesion located on the inferior angle of the right scapula

8.1%, and the median survival is usually <10 months.^[6] The prognosis of rectal cancer is strongly related to certain factors including the depth of tumor invasion into the rectal wall, the number of metastatic lymph nodes, and involvement of the mesorectal fascia and the peritoneum.^[7]

Unusual metastases of rectal cancer to the pancreas and adrenal glands have also been reported while other uncommon sites of metastases include the skin and the breast. Skin or breast involvement of rectal cancer is inferred as widespread metastatic disease, and the prognosis for these patients is extremely poor with a 1-year survival rate of <20%.^[2]

The objective to provide local control in patients with solitary metastases who have a long life expectancy is an indication for surgical removal.^[8] Well-accomplished treatment of scapular tumors is associated with complete resection, thus serving us as a stronger indication for surgery.

CONCLUSION

Bone metastasis of CRC, which is associated with poor prognosis, is an uncommon (4-6%) and late manifestation of the disease. Surgical resection should be the first choice of treatment for early-stage T1-T2 rectal cancers. In the presence of T3 and/or N(+) cancer stages, surgery is planned after neoadjuvant chemoradiotherapy. Surgical resection is also indicated for local control of the disease, in case of solitary metastases with a long expectancy of survival. Although chemoradiotherapy in addition to radical colorectal surgery remains to be the main treatment for metastatic CRC, removal of a solitary metastatic lesion is yet recommended which may provide survival benefit if a margin-negative/R0 resection can be achieved.

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by another journal or electronic publication. All authors have read and complied with the requirements set forth in the Instructions to Authors.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Riihimaki M, Hemminki A, Sundquist J, Hemminki K. Patterns of metastasis in colon and rectal cancer. *Sci Rep* 2016;6:1-9.
2. Li HC, Patel P, Kapur P, Huerta S. Metastatic rectal cancer to the breast. *Rare Tumors* 2009;1:63-6.
3. Choudhary V, Singh RK, Pankaj S. Isolated scapular metastasis in a patient with rectal carcinoma: A case report. *J Evol Med Dent Sci* 2013;2:7033.
4. Chalkidou AS, Boutis AL, Padelis P. Management of a solitary bone metastasis to the Tibia from colorectal cancer. *Case Rep Gastroenterol* 2009;3:354-9.
5. Roth ES, Fetzer DT, Barron BJ, Joseph UA, Gayed IW, Wan DQ. Does colon cancer ever metastasize to bone first? A temporal analysis of colorectal cancer progression. *BMC Cancer* 2009;9:1-6.
6. Choi SJ. Long-term disease-free survival after surgical resection for multiple bone metastases from rectal cancer. *World J Clin Oncol* 2011;2:326-8.
7. Curvo-Semedo L. Rectal cancer: Staging. *Magn Reson Imaging Clin N Am* 2020;28:105-15.
8. Manabe J, Kawaguchi N, Matsumoto S, Tanizawa T. Surgical treatment of bone metastasis: Indications and outcomes. *Int J Clin Oncol* 2005;10:103-11.
9. Onesti JK, Mascarenhas CR, Chung MH, Davis AT. Isolated metastasis of colon cancer to the scapula: Is surgical resection warranted? *World J Surg Oncol* 2011;9:2-5.
10. Kawamura H, Yamaguchi T, Yano Y, Hozumi T, Takaki Y, Matsumoto H, *et al.* Characteristics and prognostic factors of bone metastasis in patients with colorectal cancer. *Dis Colon Rectum* 2018;61:673-8.