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Metastatic rectal adenocarcinoma in the maxillary bone: A case report

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ABSTRACT

Introduction: Colorectal cancer patients presenting with isolated bone metastases are exceedingly rare. Case Report: A 72-year-old male patient appeared with a painless gross swelling in the anterior maxillary gingiva, nearly a year after anterior rectal resection for cancer. The patient was submitted to lesion excision and nasolabial flap reconstruction. Histology revealed an intestinal type adenocarcinoma. The patient underwent radiotherapy. The disease spread and our patient lost his battle with cancer. Conclusion: Rectal tumor metastasis to maxillary bone is exceedingly rare and a high index of suspicion must be maintained in order to timely diagnose and treat it. Intraoral reconstruction with a nasolabial flap is a simple and fast procedure with good cosmetic and functional results.

Keywords: Chemotherapy, Metastasis, Oral cavity, Radiotherapy, Rectal cancer

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INTRODUCTION

Colorectal cancer (CRC) is the second most common cancer worldwide and the second deadliest in Europe. It is spread via the lymphatic and hematogenous routes and is well known to metastasize to the liver and lungs, with other commonly reported sites being the abdominal cavity, ovaries, adrenal glands, bones, and brain. If metastases are present, prognosis is poor [1, 2]. About 50% of CRC patients will develop metastases [3].

Factors that affect survival include a patient's performance status, the degree of metastatic involvement, the metastatic location, and whether local therapy modalities can be incorporated into the patient's metastatic disease treatment [4].

Unusual metastatic CRC presentations can have a substantial effect on a patient's quality of life and treatment [5]. Metastasis only to bone without other organ involvement in colorectal cancer patients is extremely rare [6].

We report a case of a patient with rectal cancer who was diagnosed with a maxillary metastasis one year after his first cancer treatment.

CASE REPORT

A 72-year-old male patient was diagnosed with rectal adenocarcinoma in May 2017 and the pelvic magnetic resonance imaging (MRI) revealed a T4N2bM0 tumor. He received neoadjuvant long course chemoradiation, underwent anterior rectal resection in September 2017 and adjuvant chemotherapy. The postoperative pathological diagnosis was a poorly differentiated rectal adenocarcinoma with regional lymph node metastases, ypT3 N1a M0 R0, stage IIIB, KRAS wild type, and complete total mesorectum excision.

Eight months after surgery, the patient appeared with a painless gross swelling in the anterior maxillary gingiva. Oral examination revealed a firm mass measuring 3.7 × 3 cm (Figure 1). Computed tomography (CT) scan of the head and neck showed a solid mass and bony resorption in the anterior region of the maxilla (Figure 2). There were also bilateral cervical lymph nodes. Levels of carcinoembryonic antigen (CEA) and cancer antigens (CA) 19.9 were within normal range.

Biopsy specimen showed adenocarcinoma cells compatible with intestinal origin. The case was further discussed at ear, nose, and throat (ENT) multidisciplinary team. The patient was submitted to lesion excision (Figure 3) and nasolabial flap reconstruction in June 2018. Histology revealed an intestinal type adenocarcinoma with lymphatic and vascular invasion (Figure 4). The patient underwent radiotherapy afterwards.

Figure 1: Mass in the anterior maxillary gingiva.

Figure 2: Computed tomography scan evidencing the solid mass and bone reabsorption.

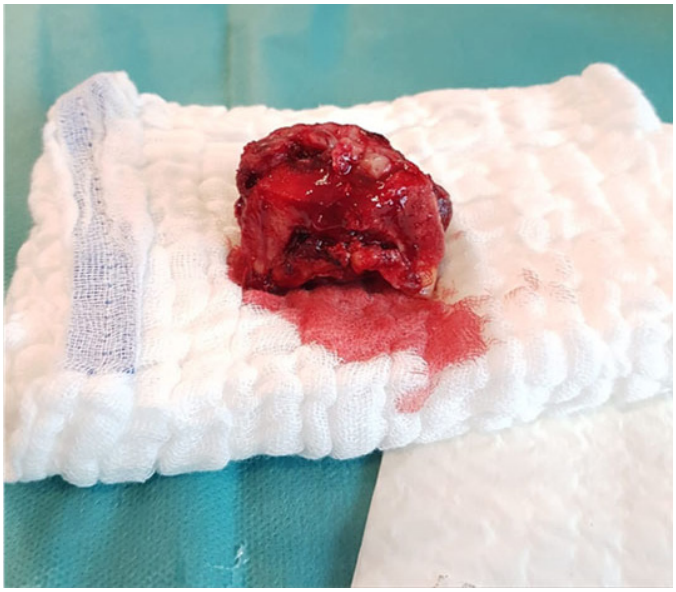

Figure 3: Macroscopic aspect of the lesion after excision.

In August 2018, he presented with anal pain and on rectal digital examination there was a hard and tender mass, later confirmed as a pelvic recurrence. General Surgery multidisciplinary team decided to start chemotherapy. The systemic therapy was Folfox (oxaliplatin 85 mg/m² + leucovorin 400 mg/m² + fluorouracil 400 mg/m²,

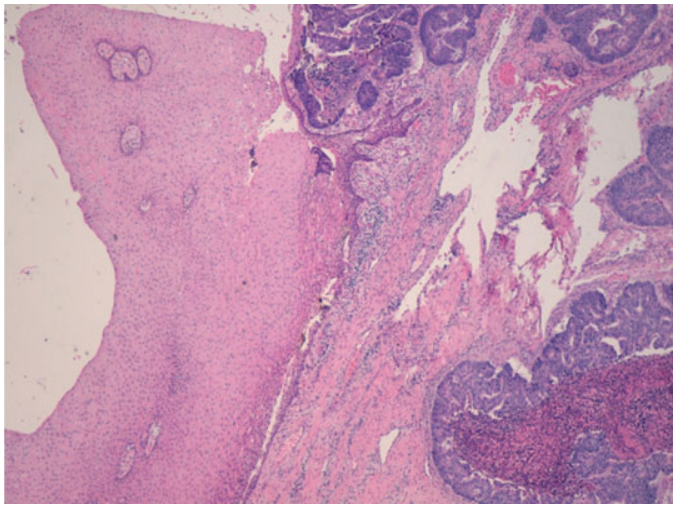

Figure 4: Histological sections of oral tissue observed through an optical microscope (hematoxylin eosin).

and 2400 mg/m²) and Cetuximab 500 mg/m², until the patient passed away.

Approximately six months after the diagnosis of the metastasis, our patient lost his battle with cancer. This outcome was inevitable given the poor prognosis of Stage IV rectal carcinoma.

DISCUSSION

The clinical presentation of oral metastasis can be variable. Patients may complain of chewing difficulty, dysphagia, deformity, pain, and bleeding. Diagnosis can be a challenge in these patients. Gingival metastasis detected in early stages may resemble hyperplastic or reactive lesions. These metastatic tumors are most commonly characterized as exophytic [7].

Metastatic lesions can occur in the oral cavity (jawbones and soft tissue). However, these tumors are infrequent. Furthermore, most metastases to the jaws involve the mandible rather than the maxilla. In the oral cavity, the gingiva is the most commonly affected site, raising the possibility of metastatic deposition secondary to inflammation events. The most common primary malignancies presenting oral metastases are the lung, prostate, and breast cancer [7, 8].

Sundermeyer et al. [9] conducted a retrospective study, comprised 1020 patients with metastatic CRC. They found that the incidence of bone metastases was 10.4%. The most important predictive factor of development of bone metastases was the presence of lung metastases. In this study, rectal cancers were more frequently (16%) associated with bone metastases than other portions of the colon (8.6%) [9]. The most common site of bone metastases is the spine, followed by the pelvis [10, 11].

It is reported that CRC with signet ring features has a higher rate of bone metastasis [12–14]. Our patient had a poorly differentiated rectal adenocarcinoma. Santini et al. demonstrated that only tumor grade significantly correlated with the time to developing bone metastases. In their retrospective, multicenter, observational study, the median time from CRC diagnosis to development of bone metastases was 11 months [10].

The management of bone metastases is usually directed toward palliation and may involve the combination of surgery (when a single metastasis is deemed resectable), chemotherapy, and radiotherapy. The systemic therapy involves various active drugs, either as combination or as single agents, and consideration should be taken regarding prior therapy, the goals of therapy, the mutational profile of the tumor, and the profile of the drug [15].

Regarding the optimal treatment of patients with bone metastases from CRC it is not clear, the literature is sparse and heterogenous and more studies are needed for a better understanding of the best treatment [16].

Intraoral reconstruction with a nasolabial flap is a simple and fast procedure with good cosmetic and functional results. It is used for reconstructing small oral defects created after the excision of malignant tumors in selected patients [17].

CONCLUSION

Rectal tumor metastases to maxillary bone are exceedingly rare and a low threshold of suspicion is crucial to make a timely diagnosis. The possibility of metastases should be considered in patients presenting with a solitary bone mass and a past history of cancer. Intraoral reconstruction with a nasolabial flap is a simple and fast procedure with good cosmetic and functional results.

REFERENCES

1. Ait Ouakrim D, Pizot C, Boniol M, et al. Trends in colorectal cancer mortality in Europe: Retrospective analysis of the WHO mortality database. BMJ 2015;351:h4970.
2. American Cancer Society. Colorectal Cancer Facts & Figures 2017–2019. Atlanta, GA: American Cancer Society; 2017.
3. Nielsen DL, Palshof JA, Larsen FO, Jensen BV, Pfeiffer P. A systematic review of salvage therapy to patients with metastatic colorectal cancer previously treated with fluorouracil, oxaliplatin and irinotecan +/- targeted therapy. Cancer Treat Rev 2014;40(6):701–15.
4. Mahmoud N, Bullard Dunn K. Metastasectomy for stage IV colorectal cancer. Dis Colon Rectum 2010;53(7):1080–92.
5. Rogers JE, Ohinata A, Dasari A, Eng C. Atypical metastatic presentations in colorectal cancer: A case series. Clin Colorectal Cancer 2014;13(1):e1–4.
6. 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;9:274.
7. Hirshberg A, Shnaiderman-Shapiro A, Kaplan I, Berger R. Metastatic tumours to the oral cavity — pathogenesis and analysis of 673 cases. Oral Oncol 2008;44(8):743–52.
8. Hirshberg A, Berger R, Allon I, Kaplan I. Metastatic tumors to the jaws and mouth. Head Neck Pathol 2014;8(4):463–74.
9. Sundermeyer ML, Meropol NJ, Rogatko A, Wang H, Cohen SJ. Changing patterns of bone and brain metastases in patients with colorectal cancer. Clin Colorectal Cancer 2005;5(2):108–13.
10. Santini D, Tampellini M, Vincenzi B, et al. Natural history of bone metastasis in colorectal cancer: Final results of a large Italian bone metastases study. Ann Oncol 2012;23(8):2072–7.
11. Jimi S, Yasui T, Hotokezaka M, et al. Clinical features and prognostic factors of bone metastases from colorectal cancer. Surg Today 2013;43(7):751–6.
12. Nozue M, Oshiro Y, Kurata M, et al. Treatment and prognosis in colorectal cancer patients with bone metastasis. Oncol Rep 2002;9(1):109–12.
13. Besbeas S, Stearns MW Jr. Osseous metastases from carcinoma of the colon and rectum. Dis Colon Rectum 1978;21(4):266–8.
14. Katoh M, Unakami M, Hara M, Fukuchi S. Bone metastasis from colorectal cancer in autopsy cases. J Gastroenterol 1995;30(5):615–8.
15. NCCN Clinical Practice Guidelines in Oncology. Rectal Cancer. 2019. [Available at: https://www.nccn.org/professionals/physician_gls/default.aspx]
16. Christensen TD, Jensen SG, Larsen FO, Nielsen DL. Systematic review: Incidence, risk factors, survival and treatment of bone metastases from colorectal cancer. J Bone Oncol 2018;13:97–105.
17. Burget GC, Menick FJ. Aesthetic restoration of one-half of the upper lip. Plast Reconstr Surg 1986;78(5):583–93.

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Florentina Menezes – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Diana Fernandes – Interpretation of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Maria Olim Sousa – Analysis of data, Interpretation of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

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Authors declare no conflict of interest.

Data Availability
All relevant data are within the paper and its Supporting Information files.