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

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.
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 Ro, 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.

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,
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.

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Authors declare no conflict of interest.

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

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