Gingival and submandibular lymph node metastasis of sigmoid colon adenocarcinoma

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Abstract

Introduction: Metastatic tumors of oral and maxillofacial region compromise 1% of all malignant oral neoplasms. Most commonly affect the jaw bone and less commonly intraoral soft tissues. They originate mainly from primary tumors of lung, breast, colon-rectum, prostate and kidney. Case report: a 77 years old man with history of sigmoid colon adenocarcinoma and liver metastasis. Two years later of being free of disease, he presented with submandibular lymphadenopathy and a gingival mass in right upper jaw. Fine needle aspiration of the node and biopsy of the gingival mass were performed. The cytological smears showed cohesive cell groups on a necrotic background. Biopsy examination showed subepithelial infiltration by neoplasm of glandular pattern with immunoreactivity for keratin 20 and carcinoembryonic antigen. A definitive diagnosis of node and oral metastases of colon adenocarcinoma was made. Discussion: Metastases in the oral and maxillofacial region are very uncommon and usually represent an advanced stage and disseminated disease. They present non specific radiologic and clinical features so it is imperative to reach a definitive diagnosis the cytological/histological examination. Because of its rarity, the diagnosis of metastases in the oral region are a challenging, both to the clinician and to the pathologist, in recognising that a lesion is metastastic and in determining the site of origin.

Key words: Gingiva, metastasis, colon adenocarcinoma, nodal metastasis.
Introduction

The metastasis of oral and maxillofacial region are rare, compromise 1% of all oral malignancies (1). They originate from malignant neoplasms of lung, breast, kidney, colon and prostate, and occur more frequently in the jaw bone (2-4). With this presentation, we report a case of an oral (gingival and bone) and submandibular lymph node metastasis of colon adenocarcinoma, and discuss the incidence, clinical features and management of metastatic lesions in this location.

Case Report

A 77 year old male diagnosed in 2005 in another center of sigmoid colon adenocarcinoma with liver metastases. He was treated with FOLFOX (oxaliplatin-5fluorouracil-leucovorin) and subsequently underwent surgical resection of hepatic segments V, VI and VII with a good clinical outcome. Two years later being free of disease, he was referred by his dentist to the department of maxillofacial surgery due a gingival tumor of 3 x 4 cm in diameter of one month of evolution with no response to antibiotic treatment. The lesion was located at the level of teeth 1.5-2.1 (right upper jaw) and the radiological examination showed the destruction of the outer cortical bone displacing the roots (Fig.1). The rest of the clinical examination, included submandibular lymphadenopathy, painless, firm and slightly adherent to deep tissues of 1 and 1.5 cm in diameter. Fine needle aspiration (FNA) of one of the nodes and then an incisional biopsy of the gingival lesion were performed. In the cytologic smears were observed a background of abundant necrotic material and three-dimensional groups of cohesive columnar cells with elongated hypercromatic nuclei.

Fig. 1. Orthopantography. Lesion in right upper jaw which destroys the outer cortical bone and displaces roots. (arrows)

Fig. 2. FNA of submandibular lymphadenopathy. a) and b) necrotic background smear. Diff-Quick and Papanicolau 40x; c) three-dimensional groups of cohesive cells with hypercromatic oval nuclei. Diff-Quick 100x

Fig. 3. Gingival tumor biopsy. a) submucosal infiltration by adenocarcinoma. H&E 40x; b) glandular proliferation with cribriform pattern and central necrosis. H&E 40x; c) positivity of tumor cells to CK20. 100x.
oral metastasis of colon adenocarcinoma. The history, location, growth rate, age, sex and radiological findings are often indicative of metastasis but to reach a definitive diagnosis is imperative the cytological/histopathological examination (12). The differential diagnosis of gingival masses should be considered inflammatory, reactivates and neoplastic processes. Among benign lesions include: pyogenic granuloma, reparative granuloma of the midline, fibroma, hemangioma and epulis. Among malignant lesions, squamous cell carcinoma of oral cavity versus squamous cell carcinoma of lung, salivary gland ductal carcinoma versus ductal breast carcinoma and primary clear cell tumor of salivary gland versus conventional type renal cell carcinoma (2,5). Some relatively specific immunohistochemical markers can help us to identify the lesion as metastatic and the origin of it, including estrogen and progesterone receptors (breast); androgen receptors and prostate-specific antigen (prostate); CK7 and thyroid transcription factor-1 (lung); CK 20 and CEA (colon – rectum); CD10 and vimentin (kidney). In our case, the morphological and immunohistochemical findings allowed us to recognize as metastatic gingival lesion and determine the site of origin. Considering that this patient already had liver metastases, probably the route of spread was hematogenous and lymph node involvement is secondary to neoplastic infiltration of lymphatic vessels of the area. The presence of metastases in the oral/maxillofacial region usually represents an advanced stage and multiple-organ disseminated disease with poor prognosis. Most of patients die within the first year of diagnosis with a survival rate at 4 years of 10% (3,7). The treatment modalities are limited to conservative and palliative therapies intended to improve the quality of life of these patients, and include local resection, radiotherapy or chemotherapy (5).

In conclusion, because of its rarity, the diagnosis of metastatic lesions of the oral and maxillofacial region are a challenge for the clinician to the pathologist. We illustrate with this presentation, a case of oral and nodal metastasis of colon adenocarcinoma and we emphasize that the cytological/histopathological examination is mandatory and with the help of immunohistochemical techniques to determine the origin site.

References
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