Metastasis from breast cancer presenting as an epulis in the upper gingiva

Mita Y Shah1, Ashok R Mehta2
1Chief of Surgical Pathology, 2Medical Director and Consultant Cancer Surgeon, BSES MG Hospital, Andheri (West), Mumbai - 400 058, India

INTRODUCTION

Oral metastasis of breast cancer is less common than metastasis to other sites like the lung and liver.[1,2] A case of metastasis of breast cancer to the upper gingival mucosa with sparing of the underlying bone in a 25-year-old lady who was operated for left breast carcinoma in February 2006 is presented.

CASE REPORT

A 25-year-old lady was diagnosed with a large left breast lump in the upper outer quadrant. The tumor size was 6.8 × 5.1 cm. The lump was diagnosed as duct carcinoma on fine needle aspiration cytology. She underwent left modified radical mastectomy in February, 2006. The histopathology report given was infiltrating duct carcinoma grade III, with neuroendocrine differentiation. One out of 13 axillary lymph nodes showed metastasis. There was no extranodal extension. Four cycles of chemotherapy (Cyclophosphamide-900 mg + Doxorubicin-90 mg) postoperatively was administered, which completed in May, 2006.

She developed a lesion on the upper alveolar gingiva in September 2007, which clinically looked like an epulis. A punch biopsy of the lesion was done and it showed a metastatic adenocarcinoma, which was consistent with a known primary in the breast. [Figures 1–3] Estrogen and progesterone receptors were done by immunohistochemistry, but the original breast tumor and the metastatic lesion were negative for both receptors. The diagnosis of a metastasis was based solely on the histological pattern of the tumor present in the submucosa. The pattern of the gingival tumor resembled the original breast tumor [Figures 4–6]. A CT scan done later revealed a 1.6 × 1.2 × 2.3 cm enhancing lesion in the right gingivo-buccal sulcus. The underlying maxilla appeared normal on CT scan with no evidence of any cortical erosion or break. The underlying teeth did not show any radiological evidence of loosening.

DISCUSSION

Various studies on metastatic patterns of breast cancer have mentioned different sites of metastasis of breast cancer, which include lymph nodes, liver, lung, pleura, etc.[1,2] Metastasis to the gingiva has not been mentioned in either of these large studies published on metastatic patterns of breast cancer. This suggests that gingival metastasis of breast cancer is an uncommon presentation.

Very few cases of distant metastasis to the gingiva without involvement of the underlying bone have been reported. Among the list of primaries reported as gingival metastasis are the kidney, lung, liver, gastrointestinal tract (GIT), and choriocarcinomas.[3,4] Breast cancer is known to metastasize to the jaw bones and secondarily involve the oral mucosa, but metastasis only involving the gingiva with sparing of the underlying bone as seen on a CT scan is rare.[2,4–6,7]

The metastatic lesion reported in this case resembled an epulis, clinically. It was biopsied and the biopsy showed histology of an adenocarcinoma. Knowledge of the patient’s past history of breast cancer and comparison of the histology of the gingival lesion with the original breast tumor helped us to make a diagnosis of metastatic cancer in the gingiva.

Gingival metastasis of breast cancer in a young patient of 25 years is usually a late occurrence and is most often associated with metastatic deposits in other organs. It is therefore a sign of poor prognosis and death usually occurs in a few weeks to months.[3,8]
After the biopsy, a CT scan was performed which revealed multiple lesions in the cerebrum and cerebellum, suggestive of brain metastasis.

Clinically early gingival metastatic lesions fail to exhibit sufficient distinguishing features to allow their separation from benign lesions like an epulis. Gingival metastatic...
lesions represent a rapid spread of the cancer and therefore the possibility of metastasis should always be considered in any patient with a known history of cancer. Definitive diagnosis requires a biopsy and histological examination.

The possible mechanism of spread is through the hematogenous route, through general circulation, or the vertebral venous circulation, but the sparing of maxillary bone with involvement of only the gingival mucosa cannot be explained.

In conclusion young patients with a history of breast cancer need to be followed up regularly and any lesion developing in the oral mucosa should be biopsied no matter how benign it may appear clinically. Histologically positive metastasis of breast cancer to gingiva is suggestive of a poor prognosis.

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