

METASTATIC BREAST ADENOCARCINOMA — A CASE REPORT

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SYNOPSIS

The various primary sites of metastatic lesions to the jaws and oral cavity are outlined. A case of metastatic breast adenocarcinoma, possibly a true gingival lesion, is presented. The importance of metastatic diseases as a group of disorders in the differential diagnosis of jaw and oral lesions is emphasized.

INTRODUCTION

Tumours metastatic to the oral region commonly present as central lesions in the jaws and less often as soft tissue lesions involving the oral mucosa (1). The primary sites are generally located below the clavicle and are usually the breast, lung, prostate, thyroid, kidney, and uterine cervix.

Metastatic lesions to the oral mucosa are exceedingly rare (2,3). Most of these are formed by direct extension of a metastatic focus in the bone. The first reported case of a true gingival lesion of metastatic carcinoma from the breast was documented by Perlmutter et al in 1974 (2). A search of the English language literature between 1975 and 1985 failed to yield any other cases. In this paper a possible case of gingival metastasis from the breast is described.

CASE REPORT

A 46-year-old Malay female was referred to the Dental Clinic, Kuala Lumpur General Hospital in April 1985 because of a swelling in the upper right alveolus of about 5 month duration. Intraoral examination revealed a non-tender, non-bleeding, firm, dumb-bell shaped lesion in the upper right molar region. This consisted of a buccal and palatal lobe attached to each other across the alveolar crest (Fig. 1). Each lobe measured approximately 3 × 2.5 cm. There was no obvious extraoral facial asymmetry. Radiographs showed slight erosion of the underlying bone.

The patient did not revealed that she had carcinoma of her left breast and had been referred from Johore to the Radiotherapy Centre in the Kuala Lumpur General Hospital for further management. For this reason an incisional biopsy of the present lesion was performed. It was based on the pathologist's report that the lesion was a metastatic carcinoma similar to that diagnosed in January 1985 that her past dental history became known. Her past dental records showed that the patient had an extraction of her upper right first molar on July 17, 1984, and subsequently a biopsy of a fibrous epulis-like growth at the same site on January 29, 1985. This was described as firm, slowly increasing in size and painful. The patient was also given a course of antibiotics. The pathologist's report was adenocarcinoma with a need to exclude a metastatic lesion. It was also noted that the patient, even after being informed about the nature of her alveolar mass, did not reveal her breast malignancy until further questioning and examination. Her past medical records showed that she was scheduled for a radical mastec-

tomy in March 1985. However in view of her alveolar metastasis, only a debulking procedure was carried out. She was then referred to the Radiotherapy Centre in the Kuala Lumpur General Hospital for further treatment.

Microscopic Diagnosis

The specimen from the oral biopsy was processed in a routine manner and sections were stained with haematoxylin and eosin, Alcian blue, Southgate's mucicarmine and Periodic acid Schiff with and without diastase. Microscopic examination of this specimen and the one from the biopsy taken in April, 1985, showed a tumour consisting exclusively of neoplastic epithelial cells arranged in ovoid and round masses in a glandular configuration in a collagenous connective tissue stroma (Fig. 2). These cells had an indistinct outline and ovoid nuclei which were occasionally hyperchromatic and pleomorphic (Fig. 3). Cuboidal cells arranged in a single row to form duct-like structures within tumour masses were also identified (Fig. 4). These tumour masses extended superficially to involve the corium of the oral mucosa (Fig. 2).

The histologic appearance of the oral lesions was compared with two tissue samples taken from the breast of the same patient (Figs. 5 and 6). Examination revealed that the oral tumour was identical with that of the breast. On the basis of these observations, the oral lesion was diagnosed as a metastatic adenocarcinoma from the breast. This diagnosis was later confirmed by the Salivary Gland Tumour Panel, United Kingdom.



Fig. 1: Intraoral view showing the swelling in the upper right molar region

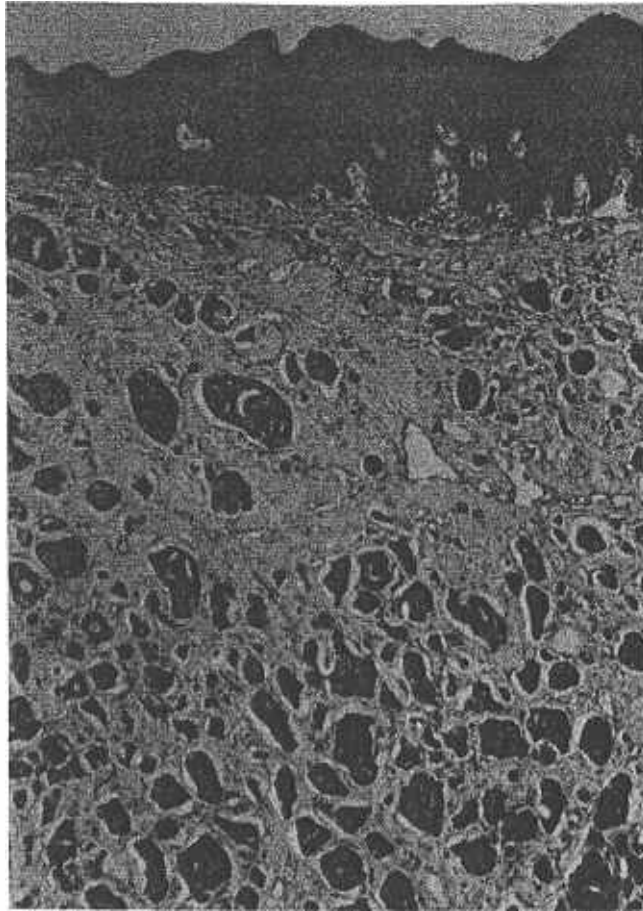


Fig. 2: Low power photomicrograph of tissue taken from lesion in the upper right molar region. Note round masses of tumour cells infiltrating the corium. (Haematoxylin and eosin; Original magnification $\times 40$)

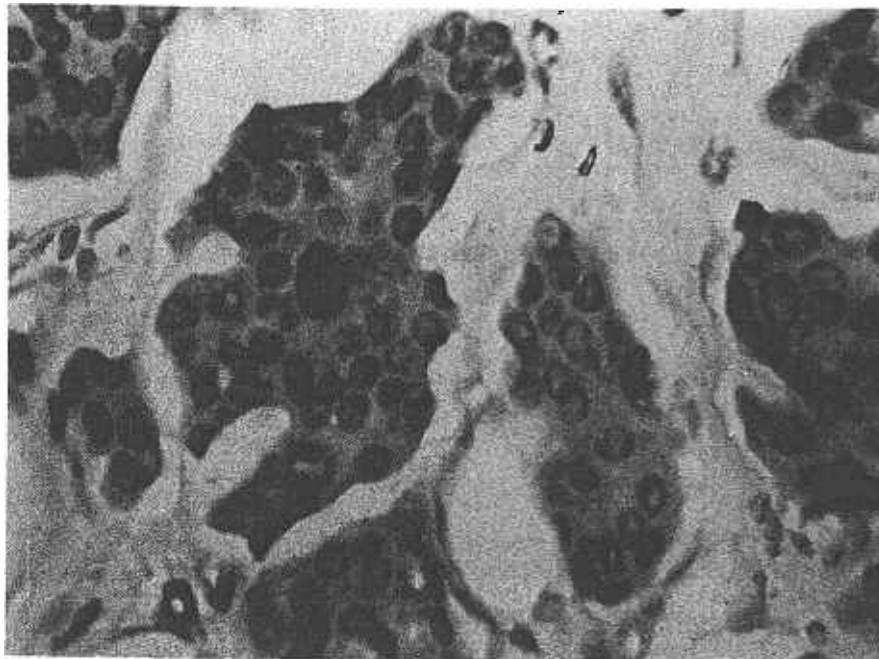


Fig. 3: High power view of tumour showing cells with indistinct outlines and ovoid nuclei. Note the occasional hyperchromatic and giant nucleus. (Haematoxylin and eosin; Original magnification $\times 200$)

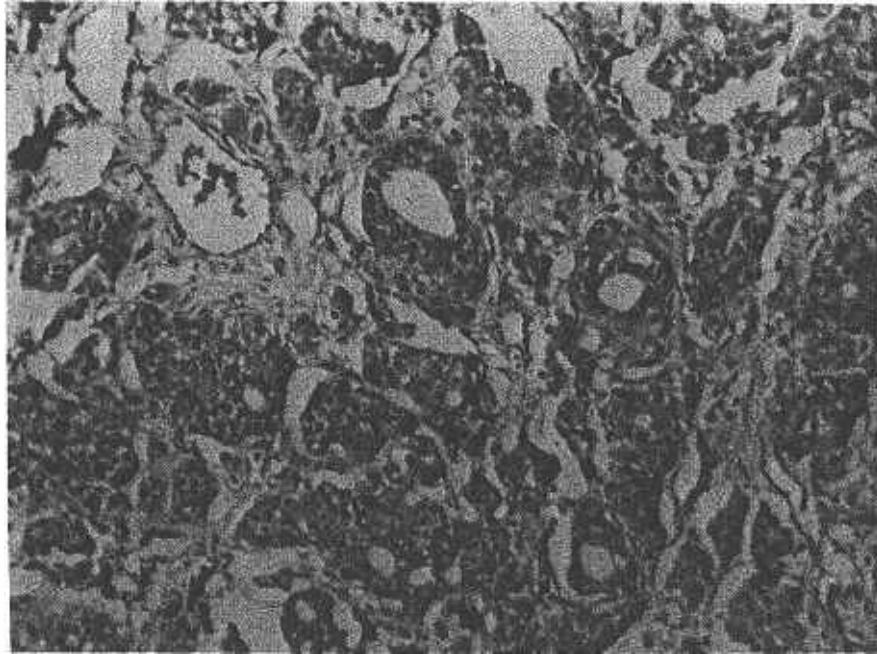


Fig. 4: Medium power view showing duct-like structures within tumour mass. (Haematoxylin and eosin; Original magnification $\times 100$)

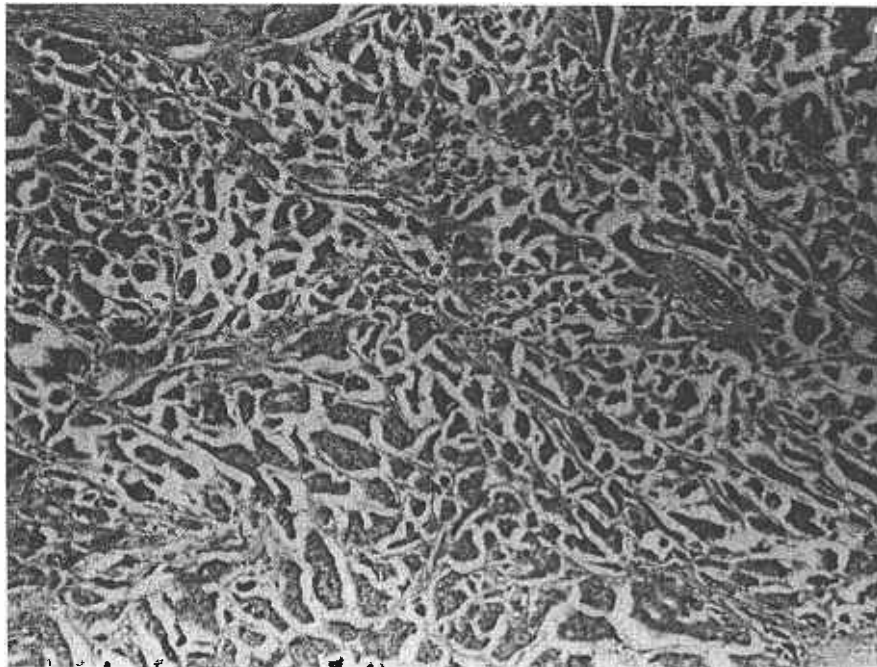


Fig. 5: Low power photomicrograph of tissue taken from lesion in the left breast showing similar histologic characteristics as the oral lesion. (Haematoxylin and eosin; Original magnification $\times 40$)

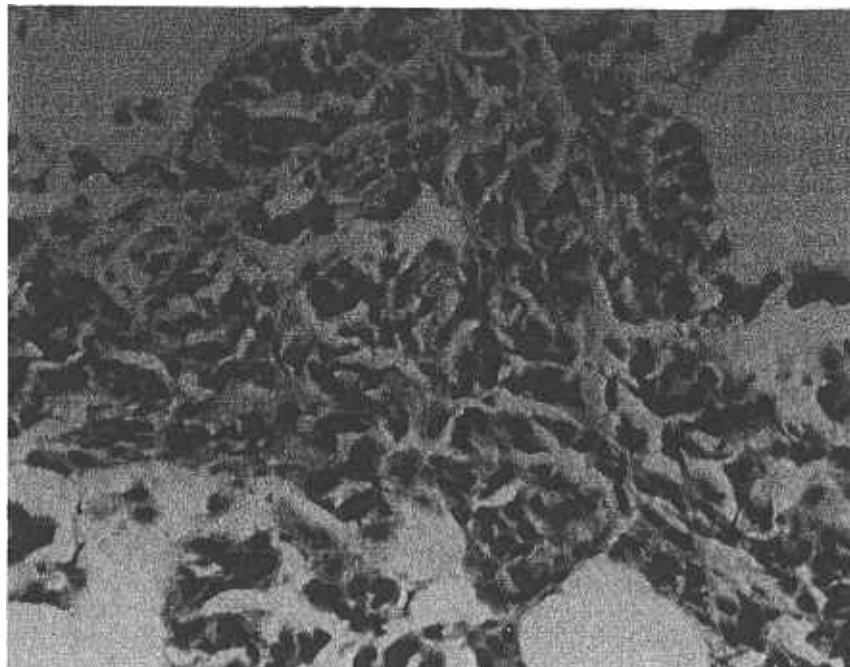


Fig. 6: Smear from needle biopsy of lesion in the left breast. Note that the cells have hyperchromatic nuclei. (Haematoxylin and eosin; Original magnification $\times 200$)

Management

The patient was referred to the medical unit for further investigation. A decision was made to irradiate the residual disease in the left supraclavicular fossa, axillae and left chest wall. The left supraclavicular fossa and axilla were treated by a single direct field on a linear accelerator to a total of 4000 Rads in 12 fractions over four weeks with a similar dose being given to the left chest wall by a pair of tangential fields using the linear accelerator. The intraoral mass in the right upper alveolar region was treated by an anterior and a lateral wedge pair of fields with a total of 4500 Rads in 20 fractions over a period of 4 weeks. At the end of the radiotherapy there was clinically no local or regional disease, and the alveolar lesion had fully regressed. However, in view of the positive axillary node and the alveolar metastasis, it was decided that chemotherapy for a total of 6 cycles be given (cyclophosphamide 800 mgm, methotrexate 50 mgm and 5-Fluorouracil 750 mgm intravenously every 3 weeks). When last seen 1 month after radiotherapy and chemotherapy there was no clinical evidence of any persistent disease.

DISCUSSION

Although metastatic tumours to the jaws and oral cavity are rather uncommon, representing only 1 percent of all malignant tumours and 1 percent of all oral malignancy, nonetheless they constitute an important group in the differential diagnosis of oral and jaw conditions (1). Very often an oral metastatic lesion is the first manifestation of primary neoplastic disease. As such it may assist in the detection of the primary focus. In other instances, localization of the primary tumour is often difficult and sometimes impossible, and it may only be disclosed in a postmortem examination.

Statistically, carcinoma of the breast has been shown to rank highest among the metastatic tumours to the oral region (3). This has been consistently

shown in the studies by Clausen and Poulsen (4), McDaniel et al (5), Meyer and Shklar (6) and Abrams et al (7). Although this neoplasm has a notable propensity to metastasize to the jawbones, metastasis to the oral soft tissue is uncommon. A review of the pertinent literature revealed that apart from Perlmutter et al's (2) case of gingival metastasis, metastasis to other parts of the oral soft tissue has not been documented. In the present case, though the bulk of the metastatic tumour was located in the soft tissue, the slight erosion of the underlying bone had raised the possibility that the lesion maybe an extension from the bone rather than a pure gingival metastasis.

As with most secondary soft tissue deposits, the preoperative diagnosis of metastatic gingival lesions from the breast remains problematical. Very often these lesions resemble clinically benign tumours or inflammatory hyperplastic conditions like fibrous epulis (as in the present case). In Perlmutter et al's (2) report, the gingival lesion was clinically diagnosed as a pyogenic granuloma or a peripheral giant cell granuloma. Diagnosis can be complicated further by non-specific symptoms such as pain, swelling and loosening of teeth, which are also symptoms of inflammatory lesions of odontogenic origin. In Perlmutter et al's (2) case there was associated generalised marked swelling of the marginal gingiva and interdental papillae, which bled freely on probing and radiographically showed generalised, slight horizontal crestal bone loss. None of these changes were observed in the present case. Perhaps the most significant findings that should alert the oral surgeon to the possibility of a metastatic lesion are symptoms of paraesthesia, a nonhealing socket following extraction of a tooth and history of past malignancy. The present case serves to illustrate that the reluctance of the patient to reveal her past malignancy had resulted in delays in the diagnosis and management. The final diagnosis of a metastatic lesion should be based on histological confirmation of a biopsy of the oral lesion and comparison with that of the primary site.

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