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Malignant fibrous histiocytoma of the floor of the mouth: case report

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Abstract
Malignant fibrous histiocytoma (MFH) is a common neoplasm of soft tissue. The floor of the mouth is an unusual site of origin and has not been described in the literature previously. Its rarity, aspecific clinical symptoms and complex histopathology combine to make the diagnosis difficult. The treatment of choice is wide surgical excision with adjunctive irradiation.

Key words: Head and neck neoplasms; Histiocytoma, malignant fibrous

Introduction

Malignant fibrous histiocytoma (MFH) occurs commonly in the deep soft tissues particularly in the extremities. Only three to 10 per cent of all lesions are reported in the head and neck region (Ogura *et al.*, 1980).

In previous studies, reported cases occur more frequently in the nasal cavity, paranasal sinus regions, larynx and soft tissues of the neck (Perzin and Fu, 1980; Ferlito et al., 1983; Cantu *et al.*, 1992). This report describes a case of MFH localized in the anterior portion of the floor of the mouth, in a patient who subsequently developed a squamous carcinoma of the vocal fold.

Case report

A 65-year-old white male presented with a mass projecting into the oral cavity, under the anterior portion of the tongue, which had developed over two months.

There was no pain; tongue mobility was slightly troublesome. The patient had been a non-smoker for three years, alcohol consumption was 200 g/day and his past medical history was unremarkable. Physical examination revealed a 4 × 2 cm oral , soft, exophytic, mobile mass connected to the anterior left margin of the floor of the mouth by a 2 × 0.5 cm peduncle. The surface was smooth and reddish. There were no palpable neck masses. Complete otolaryngological and general examination were unremarkable. A chest X-ray and tomograms of the mandible were normal (ecography of the neck revealed no nodal involvement). A biopsy revealed an irregular fragment with a fibrovasular angioma-like structure and granulomatous inflammation; a preliminary diagnosis of teleangectatic granuloma was made. Excision was performed.

Pathological study of the specimen showed an intramucosal tumour partially ulcerated comprising of a large number of poorly differentiated spindle cells with giant, pleomorphic, sometimes multiple nuclei with macronucleoli and isolated atypical mitoses (Figure 1).

The immunohistology used to identify the histogenesis of the tumour included: vimentin, desmin, alpha-1-antichymotrypsin (AACT), S-100, HMB45, Factor VIII, cytokeratin, MAC 387, epithelial membrane antigen

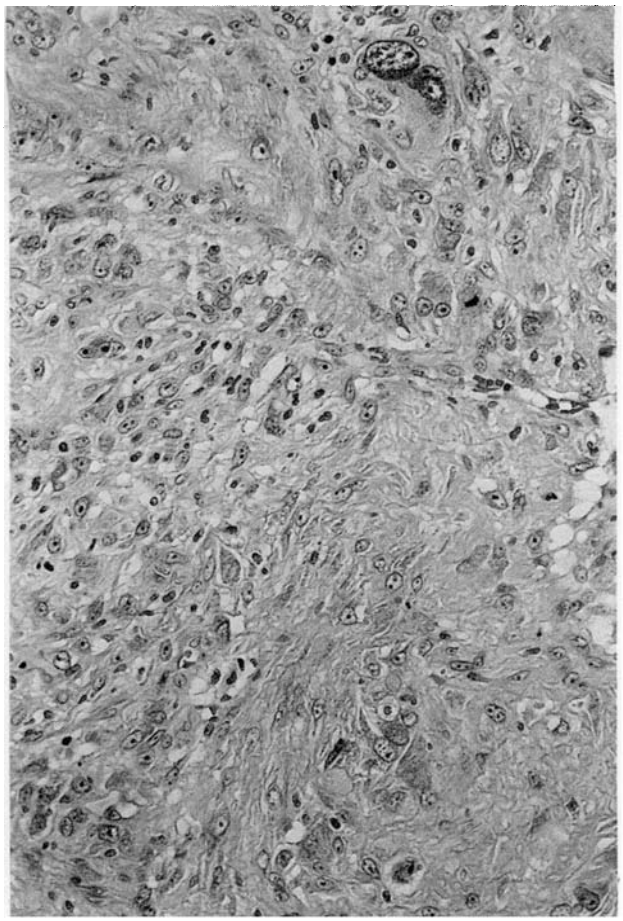

FIG. 1
Morphological features of MFH. (H & E; × 40).

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(EMA) and LCA. Positive immunoreactivity was seen for vimentin and AACT (Figures 2 and 3). The histological and immunohistochemical features confirmed a diagnosis of MFH, subtype storiform-pleomorphic.

Further surgical extension of the excision was performed and no residual disease was found. The patient received 62.1 Gy of complementary radiotherapy. Six months following excision there was no clinical evidence of local recurrence but the patient developed a swelling in the ipsilateral submandibular region. Gland resection was performed: frozen and paraffin-embedded sections demonstrated a chronic sialoadenitis.

After one year, during a follow-up visit, indirect laryngoscopy showed a small vegetating lesion on the right vocal fold. Pathological examination confirmed a squamous carcinoma ($T_1N_0M_0$, G_1). Right cordectomy was performed.

Discussion

The term 'fibrous histiocytoma' was proposed by O'Brien and Stout (1964), to describe heterogeneous tumours with a double component: histiocytic and fibroblastic. MFH is a controversial neoplasm and the derivation of the malignant histiocyte-like cells is unclear. Perzin and Fu (1980) postulated that both the histiocytic and fibroblastic cells found in this tumour derive from the same undifferentiated stem cell. MFH is a common form of sarcoma diagnosed mainly between the 5th and the 7th decade with a male predominance of approximately 3 : 1 (Sawyer *et al.*, 1993).

Although it typically arises in the lower extremities and retroperitoneum, it has been reported in deep tissues such as the lung. MFH of the head and neck, on the contrary, is rare with about 50 cases reported in the literature. Symptoms are dependent on site of origin and the tumour may show a gradual or rapid growth. Diagnosis is impossible using clinical data alone particularly when the tumour appears in an unusual site, and can be confused with a variety of fibrous tumours or inflammatory conditions.

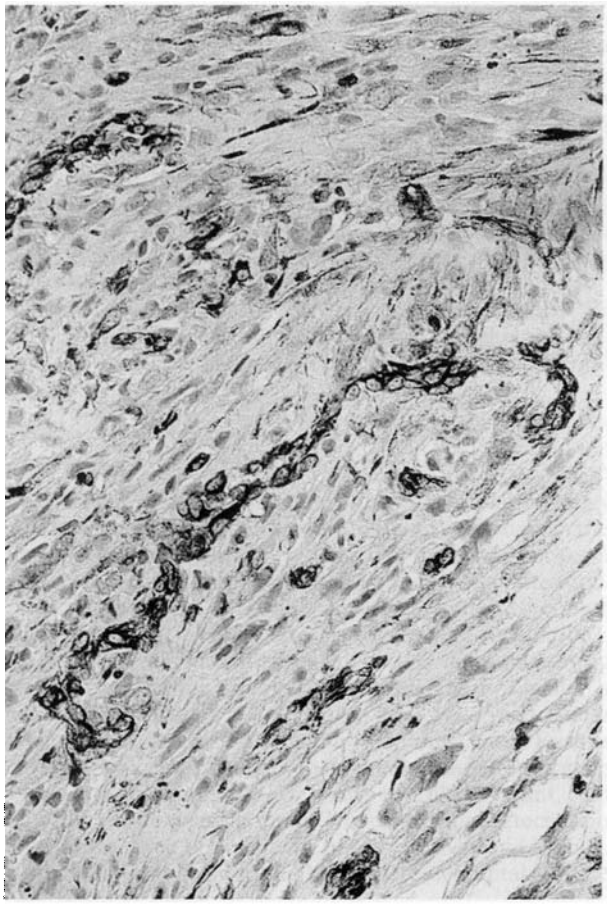

FIG. 2
Cytoplasmic staining with vimentin. (× 20).

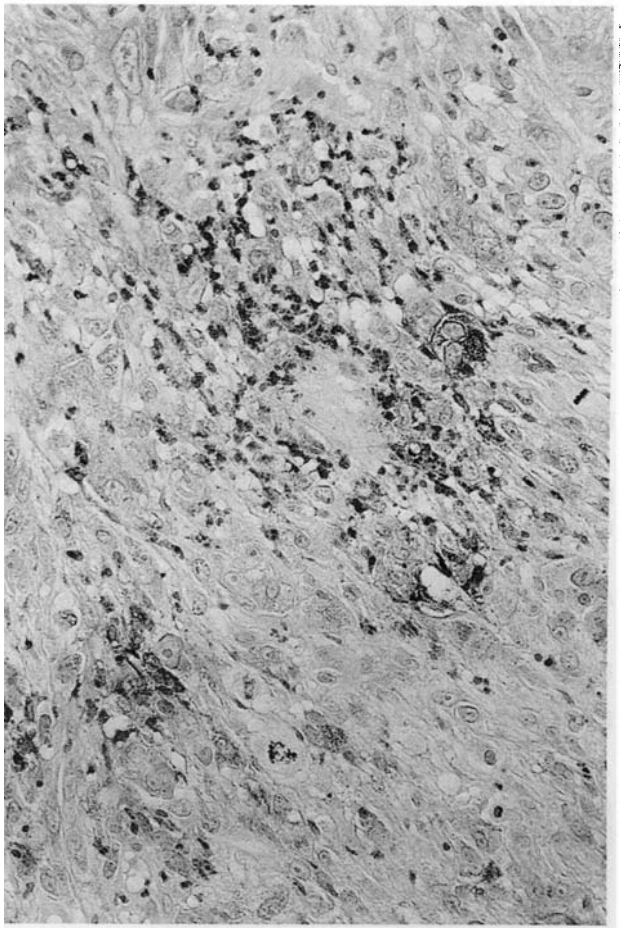

FIG. 3
Cytoplasmic staining with AACT. (× 30).

Light microscopy and immunohistochemistry are employed to establish the diagnosis of MFH. It presents an extremely wide range of pathology even within different portions of the same tumour. Storiform-pleomorphic, myxoid, giant cell, inflammatory and angiomatoid are the histological subtypes (Enzinger and Weiss, 1988). The typical immunohistochemical profile includes positive reactivity for Vimentin and AACT, and variable results for lysozyme (Nemes and Thomazy, 1988; Morita *et al.*, 1992; Rosenberg *et al.*, 1993). Recently it has been reported that MFH may express epithelial markers such as EMA and keratins (Rosenberg *et al.*, 1993). Although relatively non-specific, this profile helps differentiate MFH from poorly differentiated tumours such as carcinoma, melanoma, lymphoma and others spindle-cell sarcomas.

Literature reports show that this tumour can be locally invasive in 44 per cent of cases or develop metastases in 42 per cent. These frequencies change to 60 and 22 per cent respectively when referred to the head and neck region (Blitzer *et al.* 1977; Enzinger and Weiss, 1988). Tumour metastases occur in the lung (82 per cent) and lymph nodes (32 per cent) (Enzinger and Weiss, 1988).

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The treatment of choice is surgery with a wide zone of healthy tissue. Radical neck dissection is indicated only in the presence of clinically positive nodes. Post-surgical radiotherapy is justified by the aggressive nature of this neoplasm although multiple reports have failed to establish the efficacy of exclusive radiotherapy.

Einzinger and Weiss (1988) report that approximately 10 per cent of patients with MFH have had or subsequently develop a second neoplasm as in our case. This does not seem meaningful in view of the long-term exposure to smoke and alcohol of this patient.

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