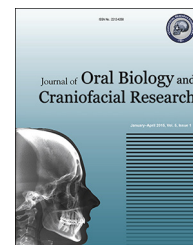


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Case Report

Spindle cell carcinoma of the mandible: Clinicopathological and immunohistochemical characteristics

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ABSTRACT

Spindle cell carcinoma, a rare variant of squamous cell carcinoma, has propensity to occur in the upper aero digestive tract, including the oral mucosa. In this oral pathology communication, we report the occurrence of this neoplasm in the left mandible as a large fleshy growth with destruction of bone in a 73-year-old Afro-Trinidadian female. The distinction of this tumor from other malignant spindle cell mesenchymal tumors is important. Selective sampling of this specimen for possible transitional areas of squamous and spindle cell appearance, immunohistochemical staining for cytokeratin, vimentin, and S-100 protein are helpful in establishing the diagnosis. According to the patient's insistence, debulking of the tumor was performed under general anesthesia. Eight months later the patient succumbed to the disease.

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1. Introduction

Oral cancer is the sixth most common cancer globally¹ and it is estimated that 198,975 new cases in men and 101,398 cases in women occur each year.² Squamous cell carcinomas account for up to 80–85% of oral malignancies, which include several variants like verrucous, basaloid, adenoid, spindle cell, adenoid squamous, and undifferentiated carcinomata.³ Spindle cell carcinoma rarely occurs in the oral mucosa. In a series of 307 oral spindle neoplasms observed over a 20-year period, only two

(0.7%) constituted spindle cell variant of the squamous cell carcinoma.⁴ This tumor was once thought to be a 'collision tumor' of sarcoma and carcinoma. The World Health Organization (WHO) defines this tumor as a "carcinoma within which there are some elements resembling a squamous cell carcinoma that are associated with a spindle cell component".³ The behavior of spindle cell carcinoma was thought to be similar to that of the more frequent and usual type of squamous cell carcinoma.³ However, in a series of 59 cases, 55% mortality with a mean survival rate less than 2 years has been reported.⁵ This observation attributes an aggressive behavior and poor prognosis of this variant.

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2. Case report

A 73-year-old Afro-Trinidadian female presented to the Maxillofacial Surgery Unit of the School of Dentistry with a rapidly enlarging growth in the left mandible of 6 months duration. She did not have any risk factors for oral cancer and her medical history was also clear. Extraorally, a distinct swelling in the left mandibular area was present. Intraorally, a fragile, large fleshy mass covering the buccal and lingual aspects of the left lower jaw from tooth# 34 to 36 and extending to the buccal mucosa and the floor of the mouth was observed (Fig. 1). The tumor measured (T) >10 cm and represented the clinical stage T₄N₀M₀. Radiographic examination showed extensive destruction of the mandible corresponding to the tumor mass leaving only a lower border cortical bone (Fig. 2). The rapidity of the growth, clinical appearance, and the bone destruction suggested a squamous cell carcinoma and an incision biopsy was performed.

3. Histopathological findings

H&E stained sections showed a connective tissue stroma infiltrated with numerous spindle shaped tumor, many of them round to oval in shape, with eosinophilic and vacuolated cytoplasm. They showed prominent anisocytosis, anisonucleosis with more than one nucleoli, hyperchromatism, and frequent mitotic figures. Alcian blue staining indicated myxomatous areas. These features suggested a malignant neoplasm of spindle cell category. The patient declined further investigations and treatment. One month later, she returned with a larger growth, pain, and inability to eat. She would only accept conservative treatment. Considering her age, a de-bulking operation was performed.

4. H&E and immunohistochemistry

Immunohistochemical investigations of the surgical specimen included pan cytokeratin, CAM 5.2, desmin (DE-R-11), vimentin, S-100, and HMB 45. The H&E microscopic features showed a slightly keratinized stratified squamous oral epithelium



Fig. 1 – Fungating and fleshy tumor in the lower left jaw.



Fig. 2 – Dental pantamograph showing destruction of the mandibular bone corresponding with the tumor mass.

overlying a tumor mass. The epithelium was dysplastic with large nuclei, loss of discontinuity of the basal cell layer with infiltration of the tumor into the underlying stroma. While the tumor cells bore squamous appearance in some fields, for most part they had spindle cell appearance with characteristic atypical features of malignancy (Fig. 3). Immunohistochemistry showed strong positivity for cytokeratin (Fig. 4) and weak positivity for vimentin (Fig. 5) and negative for CAM 5.2, desmin, S-100, and HMB 45, indicative of the epithelial origin of the tumor. The tumor was diagnosed as spindle cell carcinoma. The patient reported again with a large tumor 6 months after the de-bulking operation. She declined any treatment at this stage and died 2 months later.

5. Discussion

Spindle cell carcinoma more commonly (68%) occurs among men with a mean age of 56.6 years whilst in women higher

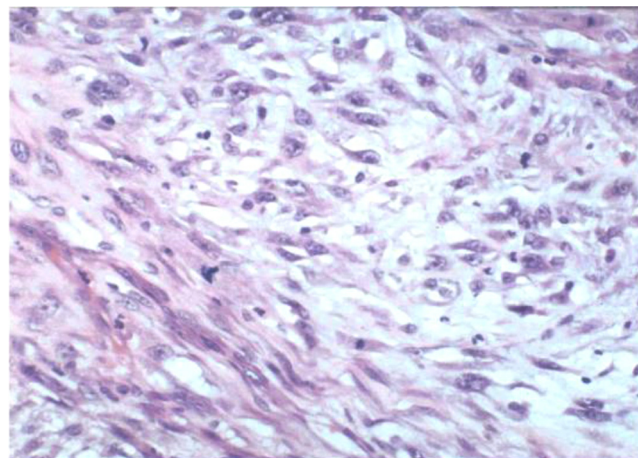


Fig. 3 – Spindle cell appearance of the tumor. Note the nuclear variations and mitotic figures (H&E ×20).

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