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SPINDLE CELL CARCINOMA OF PALATAL GINGIVA- A RARE ENTITY

Dental Science

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ABSTRACT

Spindle Cell Carcinomas of Oral Cavity are rare entities, though often grouped in classification of Squamous cell carcinomas. Due to their divergent nature and difficulty in diagnosis in routine haemotoxyline–eosin sections Immunohistochemistry plays an important role in differentiating this from other entities. The extant case report aims to report a holistic approach of such occurrence, diagnosis and treatment.

KEYWORDS

INTRODUCTION

Spindle cell carcinomas (SpCC) of the oral cavity constitutes less than 1 percent of all squamous cell carcinomas (SCC) and are thus considered a rare entity of occurrence [1]. Though they are grouped as subtype of SCC, but due to their aggressive behavior, metastatic possibility and distinct histopathological pattern make them unique and rare neoplasm. WHO also recognizes SpCC as an unique clinicopathological entity as sarcomatoid SCC [2]. Only few cases have been reported in literature and due to unclear treatment protocols (surgical with and without radiation/ chemotherapy) poses a diagnostic dilemma thus, requires general dentist to know of such entity and prompt diagnosis is necessary to address the significant morbidity and mortality associated with this disease [3]. In this case report, we present a multidisciplinary approach for a case of SpCC of maxillary palatal attached gingiva in an young female patient who was diagnosed early and surgically treated and prosthodontically rehabilitated for function and phonetics.

Case Report

A 32 years of female, wife of a serving sailor reported to the dental department with a chief complaint of a growth in the upper right palate [Figure 1]. On eliciting the history of presenting illness patient noticed the growth a few days back and was in an impression of fish bone entrapment in the palate and was reluctant to come to a dentist as was expecting it to subside in few days. The lesion was not painful and attained the present size over a period of few days. Patient had discomfort on having hot and spicy food and wanted to consult dentist for opinion for this ulcer and remove the fish bone if present. On general physical examination patient was well oriented to time place and person. She was moderately built with no other medical history. On intraoral examination an ulcer of approximately 2x2centimeters length with erythematous hallow, exophytic growth with rolled margins was seen in posterior palate. On palpation it was firmly attached to underlying connective tissue. No pain or bleeding was elicited on examination and no signs of fish bone entrapment was noticed. Patient was advised for routine blood investigations and radiographs followed by biopsy of the lesion with informed consent.

All blood investigations were within physiological limits. An incisional biopsy containing superficial and deep connective tissue was performed under local anesthesia. The specimen was sent to department of pathology for histopathological evaluation in 10% formalin. The histopathology biopsy specimen suggested of presence of sub epithelial spindle cells arranged in intersecting fascicles with moderate mixed inflammation with no cell atypia and mitosis and was suggestive of spindle cell lesion and was advised for immuno histochemistry (IHC) analysis [Figure 2]. The paraffin blocks of the specimen were sent for IHC which showed presence of fascicles of tumor cells with elongated nuclei fine chromatin and inconspicuous nucleoli with no necrosis .The tumor cells were SME positive and were immunonegative for cytokeratin EMA CK-8/18 Desmin, Caldesmon, Myogenin and MyoD1. The diagnosis of spindle cell carcinoma of palate was arrived at with IHC. A wide lesion excision involving alveolectomy and partial palatectomy was decided by reconstructive surgeon, oncologist and oral maxillofacial team followed by interim obturator fabrication [Figure 3 and 4].

DISCUSSION

SpCC is often referred to as biphasic malignant neoplasm, describing both epithelial SCC component and mesenchymal sarcomatoid spindle cell component thus making it a pathologist dilemma. SpCC thought are considered a subtype of SCC with distinct histopathological uniqueness but exhibits similar demographic prevalence and predisposing factors as of SCC [4]. It has similarly high male predilection 11:1, and associated with older age group in fifth and sixth decade of life. Predisposing factors like tobacco use (smoked or unsmoked), trauma, poor oral hygiene, alcohol consumption, history of radiation and genetics are presumed strongly associated risk factors for development of SpCC. In head and neck region larynx is the predominant site of occurrence followed by oral cavity, pharynx and sinonasal tract. In oral cavity they have high site predilection for lower lip, tongue and alveolar ridge or gingiva [5]. This article reports of a case of a young female patient with no deleterious habit and medical history of an unusual site of occurrence in palate making it one of its kind entity of occurrence. This patient is on regular follow up and post surgically rehabilitated with prosthetic obturator. Plans of rehabilitating with pterygoid implants is discussed for function and esthetics.

Initial descriptions of such type of malignancy was reported earlier in 1864 by Virchow, who labelled it as a distinct entity as carcinosarcoma. Numerous hypothesis of their histogenesis have been proposed like (1) carcinosarcoma- representing “collision tumour” (2) psudosarcoma- represents SCC with an atypical reactive stroma and (3) sarcomatoid carcinoma –represents epithelial origin with de-differentiation/ transformation to spindle cell morphology [4]. In 2005, WHO classification of head and neck tumors (including oral and oropharyngeal) considered SpCC as epithelial origin entity with a divergent differentiation (not collision) either due to in situ and/or invasion of malignant spindle cell component with mesenchymal appearance [6].

The majority of SpCC presents as polypoid, pedenculated exophytic growth mass with and without ulceration and necrosis. Importance lies in the fact that during biopsy care must be taken to involve base of the lesion to be included as tumor cell foci tends to be located at the base, otherwise superficial surface biopsy will be non-diagnostic. This also is important for clinical staging, IHC and an invasion finding of the lesion thus, acts as guide for surgical extension for effective excision [7]. Oral SpCC have divergent nature thus are difficult to diagnose from routine haemotoxyline–eosin sections of histopathology, IHC investigations have to be carried out to rule out other neoplasms. The differential diagnosis of SpCC, which may have similar features clinically includes leiomyosarcoma, rhabdomyosarcoma, myloepithelial carcinoma and malignant peripheral nerve sheath tumours [8]. IHC plays a major role in further confirmation of the diagnosis. Epithelial differentiation and staining for one or more epithelial markers along with keratin, cytokeratin,vimentin and other markers like smooth muscle actin (SMA) and mesenchymal type markers further narrows down the diagnosis [6].

The treatment and prognosis post-surgery with and without radiation and chemotherapy is debatable. Many authors believe that due to aggressive nature and early metastasis aggressive wide angle resection should be considered as primary mode of intervention. Chemotherapy

and radiation along with surgery, as a neo-adjunct is also considered acceptable alternative depending on factors like grade of tumor, size and extension of lesion. But no clear laid down protocol and guidelines is given in literature to support one modality over the other. 7.5% -26% cases of SpCC have local cervical involvement with 5% distant metastasis mainly to lungs. The prognosis depends on depth of invasion, metastasis, surgical extension, age and early diagnosis as mortality of 30% is reported with only 5 years of survival expectancy [9].

CONCLUSION

Spindle cell carcinoma of maxilla is a rare entity in head and neck region. It is potentially aggressive tumour in nature with high recurrence rate and mortality. Due to the fact that though it is epithelial in origin but has both epithelial and mesenchymal tissue component, it poses a diagnostic dilemma for pathologist for definitive diagnosis. Immuno histochemistry and special staining plays an important role for differentiating SpCC from other tumors. This article aims to sensitize the general dentist of such occurrence in oral cavity and prompt diagnosis with multidisciplinary treatment approach can aid in patient well being.

Figures

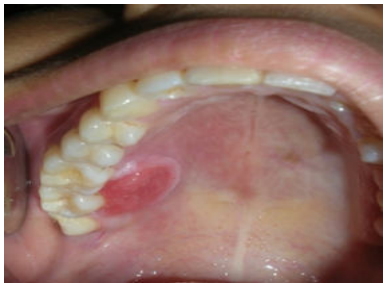

Figure 1- Clinical presentation of Non Healing ulcer in palate

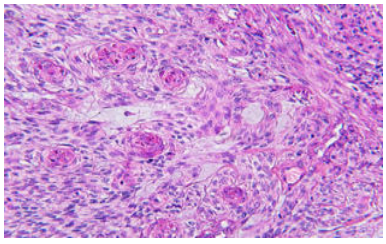

Figure 2- Histopathology of arrangement of spindle cells

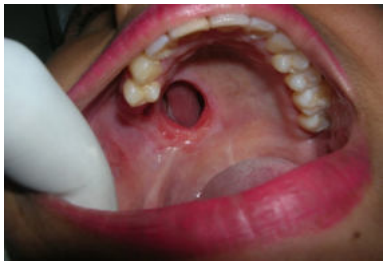

Figure 3- Post Surgical defect after alveolectomy and partial palatectomy

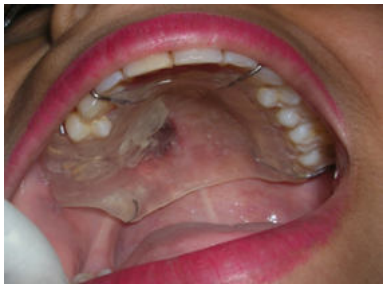

Figure 4- Interim Obturator

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