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Sarcomatoid Squamous Cell Carcinoma of Alveolus: A Rare Case Presentation

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Abstract **Case Report**

To describe a rare case of sarcomatoid squamous cell carcinoma of alveolus. A 53-year-old female with complaints of non-healing ulcerative growth over the left side of the hard palate, which was associated with pain for two months. She underwent extraction and a Histo-pathological examination of teeth with attached soft tissue was suggestive of SarcomatoidCarcinoma. The patient underwent Left infrastructure maxillectomy with wide local excision with left modified radical neck dissection type II. Histopathology showed lympho-vascular infiltration and perineural infiltration. All margins were free. Out of 8 lymph nodes that were dissected, 1 showed metastatic disease. The patient received adjuvant concurrent radio-chemotherapy 66Gy in 33 fractions (2Gy/day) in two phases along with weekly Injection Cisplatin 40 mg/m^2. Sarcomatoid squamous carcinoma is a rare and uncommon variant of squamous cell carcinoma. It is aggressive in nature and shows early recurrence and metastasis. Thus, associated with a poor prognosis. There is no defined treatment protocol for this variant. We have discussed a case of sarcomatoid carcinoma of the alveolus that was operated and followed by adjuvant chemo-radiotherapy.

Keywords: sarcomatoid squamous cell carcinoma, alveolus, adjuvant chemo-radiotherapy.

INTRODUCTION

Sarcomatoid squamous cell carcinoma or Spindle cell carcinoma is a rare type of neoplasm. This cancer has been named variously as carcinosarcoma, pseudosarcoma, lane tumor, pleomorphic carcinoma, polypoid carcinoma, pseudosarcomatous carcinoma and metaplastic carcinoma. According to WHO classification of tumors of oral cavity, it is mentioned under malignant epithelial tumors of squamous cell carcinoma [7]. It shows dysplastic epithelial component and stromal component composed of invasive fusiform or spindle shaped cells. It has both benign and malignant cells. This is not common in oral cavity and comprises less than 1% of all cancer of this region. The diagnosis, treatment and prognosis of this malignancy remain controversial. It is unusually aggressive in nature with a higher tendency to reoccur and metastasize. Thus it is important to correctly diagnose this variant.

CASE REPORT

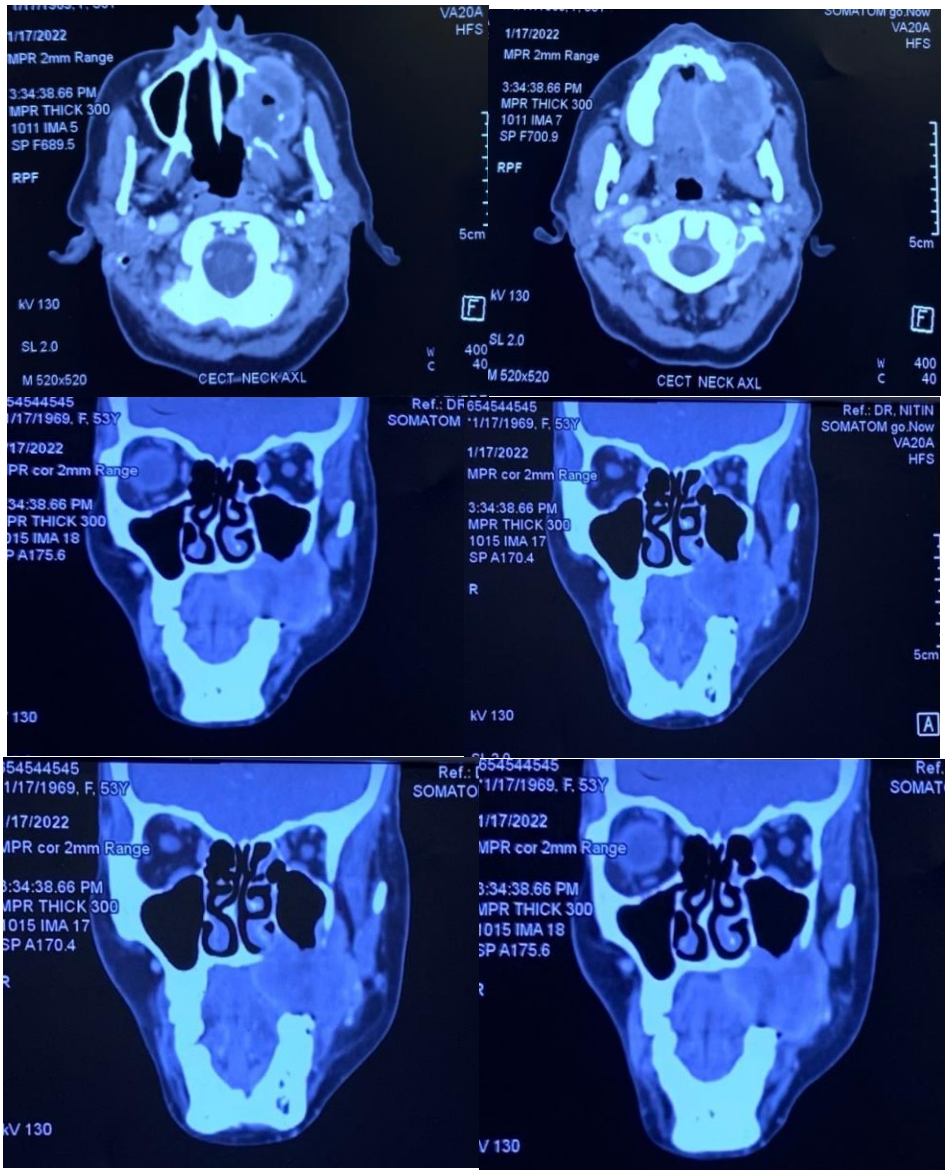
A 53 year old female, reported to the Radiation Oncology OPD with the complaints of non-healing ulcerative growth over left side of hard palate which was associated with pain since 2 months. There was no history of any bleeding although, there was a history of soft tissue growth in upper gums on left side of mouth about 5 months back. Patient underwent extraction of 26, 27, 28 teeth, along with the growth, at another higher centre. Histo-pathological examination of teeth with attached soft tissue was suggestive of Sarcomatoid Carcinoma.

General physical examination was conducted which revealed a short and thin built individual. Patient was a known case of hypothyroidism on medication. There was no history of smoking, tobacco chewing or alcohol consumption. On examination ~4x3cm ulcero-proliferative growth was present over left side of hard palate, extending anteriorly till left canine and posteriorly till 3rd molar. Medially growth was present ~1cm from midline and laterally it was involving gingivo-buccal sulcus. Approximately 2X2 cm lymph node was present in left level II cervical region on palpation.

FINDINGS ON BLOOD INVESTIGATIONS AND IMAGING

All baseline blood investigations were within normal limits. Contrast enhanced CT scan of face and neck revealed a heterogeneously enhancing mass lesion involving the hard palate and superior alveolus on left side causing their destructive lesion, extending anteriorly into nasal cavity, superiorly into maxillary antrum and bulging into the oral cavity infero-medially. Posteriorly, the mass was abutting the pterygoid plates; however, no cortical destruction or extension into the pterygopalatine fossa was seen. Fat planes with pterygoid and masticator muscles were maintained. The mass measured 2.8X2.5X2.2 cm and multiple sub-centimetric lymph nodes were seen at cervical levels Ib, II, III and IV, bilaterally. No treatment was received for 2 months.

A repeat CT scan of head and neck region was done after 2 months which was evident of an ill-defined heterogeneously enhancing mass lesion with central non-enhancing areas involving left superior alveolus, left side of maxilla and left half of hard palate with bony destruction. Superiorly, lesion was infiltrating left maxillary cavity, encasing anterior posterior and lateral walls of left maxilla with destruction of posterior wall. Postero-laterally it was infiltrating left masticator space. There was destruction of left lateral pterygoid plate with loss of fat planes with medial pterygoid muscle and extension into left lateral pharyngeal wall. Medially, lesion was abutting left inferior turbinate and approaching upto left nasal cavity through destruction of medial wall of left maxilla. Anteriorly, it was extending into left buccal space. Lesion measured approximately 3.2X4.6X4.5 cm. multiple bilateral upper cervical lymph nodes were seen, predominantly bilateral level 2, largest of size 1.8X0.9 cm on right and 1.3X1.2 cm on left level IIa with areas of necrosis.



CT scan images showing ill-defined heterogeneously enhancing mass lesion with central non-enhancing area with bony destruction involving left superior alveolus, left side of maxilla, left half of hard palate with extension into nasal cavity and oral cavity.

Fine needle aspiration cytology from left level II node was suggestive of malignant metastatic tumor.

Images showing microscopic histology (L). The subepithelium show a tumor arranged in the form of sheets and fascicles. The tumor cells are oval to spindle shaped, have elongated nuclei with coarse nuclear chromatin, conspicuous nucleoli with moderate cytoplasm. (R)Shows microscopic image stained with Pan-CK.

TREATMENT

Patient underwent Left infrastructure maxillectomy with wide local excision with left modified radical neck dissection type II. Histopathology of the resected specimen showed Sarcomatoid squamous cell carcinoma of size 5.8X4cm with lympho-vascular infiltration and perineural infiltration. All margins were free. Out of 8 lymph nodes that were dissected, 1 showed metastasic disease (Image 7-8).

Patient received adjuvant concurrent radio-chemotherapy 66Gy in 33 fractions (2Gy/day) with spinal shielding as required along with weekly Inj. Cisplatin 40 mg/m^2.

DISCUSSION

Sarcomatoid squamous cell carcinoma is an uncommon type of squamous cell carcinoma. Due to its rarity of occurrence in the head and neck region, it becomes challenging to correctly diagnose and treat these patients. Sarcomatoid squamous cell carcinoma forms a subgroup of mixed malignant tumors. This malignancy was first described by Virchow in 1864 as a carcinosarcoma. It is a biphasic tumor having both mesenchymal and epithelial components [3, 6]. The term 'Spindle cell sarcoma' was given by Shervin *et al*, [5]. Sarcomatoid carcinoma of oral cavity is seen more commonly in males of middle age group ranging from 29-93 years. It commonly involves the lower lip, alveolus or tongue. It presents as an ulcerative lesion with fibrinoid necrosis. Tobacco use, previous radiotherapy, poor oral hygiene or alcohol abuse could be the risk factors leading to sarcomatoid carcinoma of oral cavity.

On histopathology, it has two different components, a carcinomatous component and a sarcomatoid or dysplastic spindle cell component. Spindle component mostly makes most of the tumor, presenting as storiform and fasciculated pattern. While the squamous portions presents as dysplasia, carcinoma in situ or frankly invasive carcinoma. The spindle cell component can show various histological patterns, like, malignant histiocytoma and spindle cell sarcoma [7].

Wide surgical excision with or without radical neck dissection is considered to be the first line of primary treatment followed by adjuvant radiotherapy in margin positive and node positive patients. In inoperable patients, radiotherapy can be considered as a primary treatment [1]. Surgery with or without neck dissection shows better results compared to radiotherapy or both [3]. But in advanced cases, even surgical resection is not satisfactory [4]. Prognosis depends on location, size and depth of invasion of tumor, stage of disease and presence of any keratin staining in spindle cells [2]. The disease of the oral cavity and oropharynx is aggressive and has a tendency to recur and metastasise early. While early stage disease shows a better prognosis.

CONCLUSION

Sarcomatoid squamous carcinoma is a rare and uncommon variant of squamous cell carcinoma. It is aggressive in nature and shows early recurrence and metastasis. Thus, associated with poor prognosis. There is no defined treatment protocol for this variant. We have discussed a case of sarcomatoid carcinoma of the alveolus that was first operated, followed by adjuvant chemo-radiotherapy. Patient is currently on follow up with no significant complaints.

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