Case Report
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BASALOID SQUAMOUS CELL CARCINOMA IN THE RETROMOLAR TRIGONE- A REPORT OF A RARE CASE

Dental Science

Dr.Frankantony.P. Britto* Asst. Professor, Department of Oral and Maxillofacial Pathology,SJM Dental College& Hospital, Chitradurga. *Corresponding author

Dr Varsha R. Shetty.J Assistant Professor, Department of Oral and Maxillofacial Pathology, Srinivas Institute Of Dental Sciences, Surathkal, Mangalore

Dr.Dinkar Desai Professor & Head, Department of Oral and Maxillofacial Pathology, A.J.Institute Of Dental Sciences, Kuntikana, Mangalore.

Dr.Siddharth Pandit Professor, Department of Oral and Maxillofacial Pathology,A.J.Institute Of Dental Sciences, Kuntikana, Mangalore

ABSTRACT

Basaloid squamous cell carcinoma (BSCC) is a rare variant of Squamous cell carcinoma in head and neck region with a relative frequency of two percent and only few cases being reported. In the oral cavity, BSCC has a predilection for the tongue, though it has been described in other locations such as floor of the mouth, palate, retromolar trigone and gingival mucosa. As Basaloid squamous cell carcinoma tends to have an aggressive course as compared to conventional Squamous cell carcinoma, with frequent local recurrence, regional and distant metastasis, its diagnosis is imperative and should be considered in differential diagnosis of tumors arising in the oral cavity.
A sixty five year old male patient presented with an ulceroproliferative growth in the left retro mandibular region since eight months. The tumor showed an unusual site of occurrence that suggested it was a rare case in this location of oral cavity.

KEYWORDS

Basaloid squamous cell carcinoma, Squamous cell carcinoma, Retromolar trigone.

INTRODUCTION:

Basaloid squamous cell carcinoma (BSCC) has been considered a distinct variant of Squamous cell carcinoma (SCC), first proposed by Wain et al.[1] In 2005 classification, WHO defined it as a variant of SCC with Basaloid and Squamous components associated in varying proportions.[2] The most frequent sites of occurrence in the upper aero digestive tract being the base of the tongue, the supraglottic larynx, and the hypopharynx.[3]

BSCC displays distinct morphological and biological features as well as a different clinical course.[3,4] It affects mainly men in sixth or seventh decade of life, with frequent cervical node metastases at presentation.[5,6]

CASE REPORT:

A 65 year old patient reported with a complaint of growth in the lower left back teeth region of jaw since 8 months which gradually increased to the present size. Patient gave a history of pain present since 6 months which was intermittent and moderate in intensity, aggravating during mastication. He had a history of beedi smoking for a period of 40 years, with a frequency of 10 per day. No history of difficulty in mouth opening and tongue movements. Extra oral examination showed no facial asymmetry.

On intraoral examination, an ulceroproliferative growth was seen in left retro molar region, measuring about 2x2cm, irregular with rolled out margins extending to involve the lingual alveolar mucosa(Fig 1). The lesion was covered with slough. On palpation it was firm, tender and no bleeding was observed. The surrounding regions appeared normal. Oral hygiene was poor with generalised stains and calculus. Bimanual palpation revealed enlarged and non tender sub mandibular lymph nodes on the left side. A provisional clinical diagnosis of malignant ulcer was given.

An orthopantamogram did not reveal any significant findings. Only a superficial erosion of bone in left mandibular posterior ridge area was seen. A CT scan of neck was done which gave an impression of focal enhancing lesion in the left Retromolar region with erosion of the adjacent cortex of ramus of left mandible. An incisional biopsy was performed and sent for histopathologic examination. The histopathological report was moderately differentiated Squamous cell carcinoma.

The treatment planned was Hemi mandibulectomy under general anesthesia followed by radiotherapy. Hemi mandibulectomy was done along with surgical removal of level 1lymph nodes in the region of the neck.

The histopathologic picture of the excised specimen showed superficial parakeratinized stratified squamous surface epithelium invading the underlying connective tissue. Numerous tumor epithelial islands in the connective tissue close to the epithelium were seen showing papillary and pseudo glandular pattern(Fig.2 and 3). Tumor epithelial island showed peripheral palisading of basal cells with hyperchromatic nucleus (Fig.5) scanty cytoplasm and central comedo type necrosis (Fig.6). Keratin pearl formation and mitotic figures were evident in the infiltrating strands (Fig.4). The connective tissue stroma showed chronic inflammatory cell infiltration. After correlating the clinical and histopathological findings, a final diagnosis of Basaloid squamous cell carcinoma was given .The patient was treated surgically followed by radiotherapy and has been reviewed regularly for the last six months and is disease free.

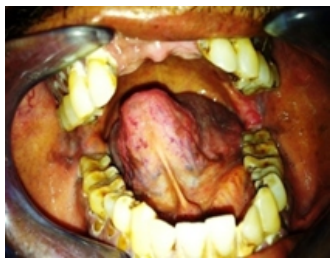

FIG.1: ULCEROPROLIFERATIVE GROWTH SEEN IN LEFT RETRO MOLAR REGION

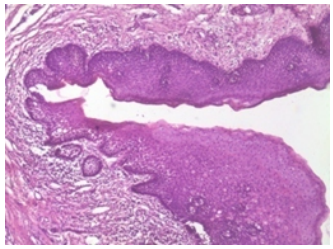

FIG 2: EPITHELIAL ISLANDS IN THE CONNECTIVE TISSUE CLOSE TO THE EPITHELIUM

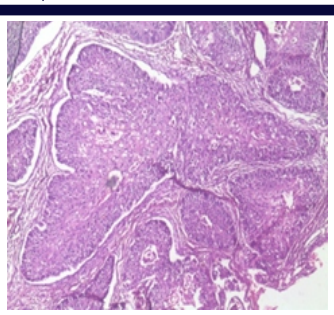

FIG 3: TUMOR EPITHELIAL ISLAND SHOWING PAPILLARY AND PSEUDO GLANDULAR PATTERN

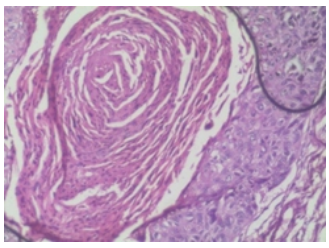

FIG 4:KERATIN PEARL FORMATION IN TUMOR EPITHELIAL ISLAND

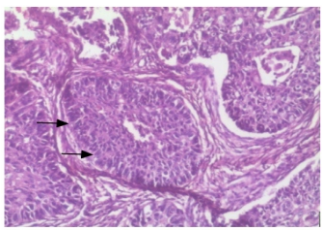

FIG 5: TUMOR EPITHELIAL ISLAND SHOWING PALISADING OF BASAL CELLS WITH HYPERCHROMATIC NUCLEUS

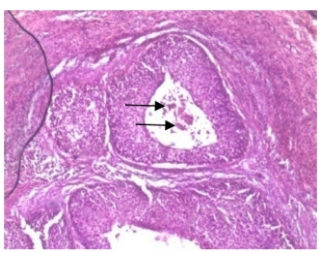

FIG6: TUMOR ISLAND SHOWING CENTRAL COMEDO TYPE NECROSIS

DISCUSSION:

BSCC has been defined in the 2005 WHO classification on the Tumors of the Head and Neck as an aggressive high grade variant of Squamous cell carcinoma, composed of both Basaloid and Squamous components.[2] Its first description was made in 1986 by Wain et al.[1] The current WHO classification on the Tumors of the Head and Neck suggest the tumor originates from totipotential cells in the basal layer of squamous epithelia.[2] In 1927, Quick and Cutler mentioned the existence of undifferentiated SCC of the nasopharynx, tonsil and tongue base where BSCC occurs more frequently, but they provided no histopathologic details other than suggesting that these type of tumors were highly malignant and radiosensitive. They recommended the name "transitional cell epidermoid carcinoma".[7,8]

Kleist et al and El Mofty et al have very recently detected a high frequency of HPV and HSV in Basaloid tumors than in conventional Squamous cell carcinoma in the head and neck.[9,10]

The variants of Squamous cell carcinoma account for upto 15% within the mucosa of the upper aero digestive tract. The variants include verrucous, exophytic or papillary, spindle-cell (sarcomatoid), Basaloid and adenosquamous carcinoma.[11] Each of these variants Have a unique histomorphologic appearance, which raises a number of different differential diagnostic considerations, with the attendant clinically relevant management decision.[11]

BSCC is commonly seen in elderly males in association with the habit of smoking and alcohol intake.[12] In a series of cases reported by Ide F, et al, the mean age of the patients was 61 years.[7] In the present case, patient's age was 65 years and he presented with a history of bidi smoking for the last 40 years. Patient used to smoke around 10 bidis per day.

Only few cases of oral BSCC have been reported till date, which makes it a rare malignant tumor of the oral cavity. The base of the tongue has been found to be the most common site followed by buccal mucosa, gingiva, floor of the mouth, maxillary sinus and maxillary tuberosity.[7] Our case report was Basaloid squamous cell carcinoma in the retromolar area, which is quite rare. Lung is the most common site for distant metastasis but regional lymph nodes may be affected as well.[13]

Clinically our case mimics Squamous cell carcinoma and was reported as moderately differentiated Squamous cell carcinoma on incisional biopsy. The histologic picture of excisional biopsy showed large tumor cells in strands and islands. Presence of closely packed pleomorphic basaloid cells with nuclear palisading along the periphery of the neoplastic cells, surrounded by fibrous stroma with prominent areas of comedo type necrosis. Keratin pearl formation and Squamous cell component interspersed among the Basaloid islands was evident. Hence the histopathologic report of BSCC was given.

Wain et al and Barnes et al. suggested the following criteria to diagnose cases of BSCC. The features included:

1. Predilection for head and neck region in men in their 60s or 70s.
2. An ulcerated or exophytic mass with sub mucosal soft tissue infiltration.
3. Solid Basaloid appearing dysplastic island with biphasic pattern showing comedo type necrosis and pseudo-glandular pattern.
4. Abrupt foci of Squamous differentiation with or without keratin pearls, and surface mucosal epithelium showing dysplastic features.[1,5]

Despite reported characteristic histological pattern, BSCC can be misdiagnosed as adenoid cystic carcinoma (solid type), Adenosquamous carcinoma, Polymorphous low grade Adenocarcinoma, Small-cell undifferentiated carcinoma, salivary duct carcinoma and neuroendocrine carcinoma[5,7]

Coletta et al have demonstrated the importance of cytokeratins 1, 7 and 14 in the diagnosis of SCC and have shown significantly higher AgNOR and PCNA positivity in BSCC when compared with squamous cell carcinoma. Expression of p53, MMP-1, MMP-2 and MMP-9 were reported higher in cells of BSCC than in cells of squamous cell carcinoma.[14]

The treatment of choice for BSCC is complete surgical excision of the lesion with neck dissection supplemented by radiotherapy or adjuvant chemotherapy.[15]

The clinical course and prognosis of BSCC have been considered worse than for conventional SCC based on its aggressive biological behaviour characterized by early local or regional recurrences and distant metastasis, as well as lower reported survival rates.[15]

CONCLUSION:

Our present case is a rare case of BSCC of oral cavity, arising in the retromolar trigone area, an unusual location for this tumor. A thorough medical examination coupled with careful clinical examination, histopathological analysis can help in achieving an accurate diagnosis for proper treatment. Immunocytochemical markers for epithelium would be helpful diagnostic markers for the confirmation of the tumor.

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