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BASALOID SQUAMOUS CELL CARCINOMA OF PALATE : A CASE REPORT

Oral Pathology

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ABSTRACT

Basaloid squamous cell carcinoma is a rare aggressive malignant tumor which is histologically a distinct variant of squamous cell carcinoma. In the head and neck, it occurs most commonly in the pyriform sinus, larynx, and base of the tongue. Palate is very-very rare site of BSCC development and only few cases have been reported in the literature. This report presents a case of basaloid squamous cell carcinoma in the palate of a 75 year-old woman who presented with a painful mass at hard palate of the left side. The patient was treated by infrastructural maxillectomy.

KEYWORDS

Basaloid Squamous Cell Carcinoma, Lymphadenopathy, Palate

Introduction-

Basaloid Squamous Cell Carcinoma (BSCC) is a rare [1] and aggressive variant of Squamous Cell Carcinoma that was first identified as a separate histopathological entity by Wain et al.[2] The most common sites to be affected are larynx, hypopharynx, tonsils and the base of tongue. Other less frequently affected sites are nose, paranasal sinus, external ear, submandibular region, esophagus, lung, anus, vulva, vagina and the uterine cervix.[3] BSCC is characterized by nesting, lobular and trabecular arrangement of small crowded cells with scant cytoplasm, and hyperchromatic nuclei. The lobules of malignant basaloid cells show peripheral nuclear palisading, comedo necrosis and high mitotic activity[3] Most BSCCs are diagnosed at advanced clinical stages. [4] Surgical excision is treatment of choice followed by radio/adjuvant chemotherapy or combination of both[3] Prognosis of BSCC is controversial.

Case Report

A 75 year old lady came to Department of Oral and Maxillofacial surgery with chief complaint of pain in left side of upper jaw since one year. History revealed that patient noticed a small swelling at left side of palate for last 3 years, which was increasing gradually. She consulted to a local dentist but didn't get relief. Patient finally came to us for further treatment.

Extra oral inspection showed no gross asymmetry of face. On palpation, slight pain was observed over left maxillary sinus region. There was no evidence of lymphadenopathy. Intra-oral examination showed a reddish, irregular, ulcerated lesion covered by necrotic tissue over left maxillary alveolar ridge, measuring 3 X 2 Cm in greatest dimension. Swelling was soft to firm in consistency and not bleeding on palpation. (Figure-1)

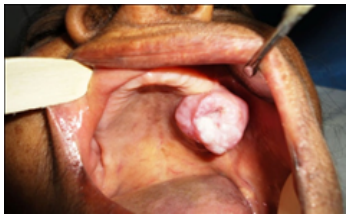

Figure.1 – Pre-operative photograph showing tumor mass on the palate.

Patient medical history was non-contributory. Routine hematological investigations were found to be within the normal ranges. Computerized tomography (CT scan) of the neck and chest were negative for metastatic lesions. No history of tobacco and alcohol consumption was noted.

Incisional biopsy was done under local anesthesia. The tissue specimen fixed in 10% neutral buffered formalin was submitted to laboratory for histopathological examination. Histopathological findings revealed proliferating basaloid cells with hyperchromatic nuclei and scanty cytoplasm in the form of lobulated sheets and strands. The cells at the periphery of the lobules were palisaded and in the centre cystic space with necrotic debris was seen. Mitotic figures could also be appreciated. The surrounding stroma was hyalinized with chronic inflammatory cells. Above findings were suggestive of the basaloid squamous cell carcinoma.

Radiological findings on contrast enhanced coronal CT scan showed a soft tissue mass of approximate size of 2.5 X 2 X 2 cm abutting the hard palate on left side and pushing the tongue inferiorly and to the right side. On bone window there was mild scalloping of hard palate, however no frank destruction was seen. (Figure-2 &3).

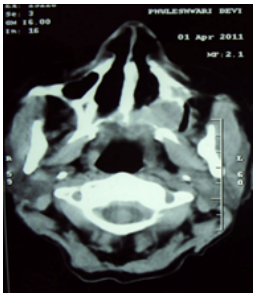

Figure.2 – CT scan axial view.

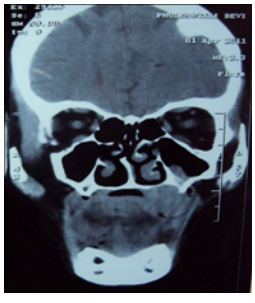

Figure.3 – CT scan coronal view.

On the basis of clinical, radiological and histopathological examination, infra structural maxillectomy was done under general anesthesia. Weber Ferguson incision was given and lesion was excised taking healthy margin of 1cm at periphery. (Figure- 4&5) .

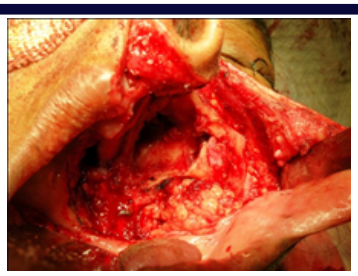

Figure.4- Intra- operative photograph after excision of the tumor.

Figure.5 – Excised specimen.

Histopathological findings of excised specimen confirmed diagnosis of BSCC. (Figure-6)

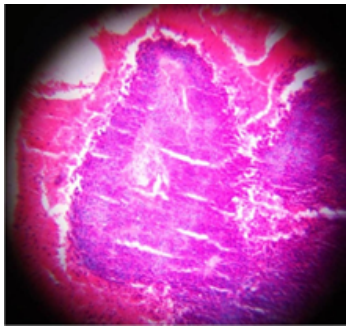

Figure.6 – Photograph showing basoloid cells proliferation with necrotic areas. (10x magnification)

Postoperative result was uneventful. (Figure-7).

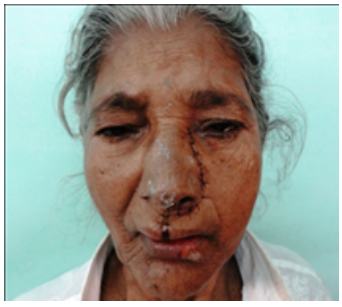

Figure.7 – post-operative photo of patient.

No recurrence was seen after 1 year of follow-up.

Discussion

BSCC is a rare variant of squamous cell carcinoma which usually occurs in men between age group of 60 – 70 years [5] Variant of squamous cell carcinoma (SCC) are verrucous cell carcinoma, spindle cell carcinoma, adenosquamous carcinoma, papillary and exophytic squqmous cell carcinoma and BSCC. Some authors have reported association of BSCC with tobacco and alcohol consumption [5]. It may arise in the upper aero-digestive tract with strong predilection for the base of the tongue, hypopharynx and supraglottic larynx, but may also occur in the anus, thymus and uterine cervix [3]. Reported case was present on the palate which is very rare site for this tumor.

Relationship of viruses and BSCC is a matter of discussion and has been reported in some locations like nasopharynx [6] and penis [7]. However there is controversy; Kleist et al [8] El-Mofty et al [9] and Chernock et al [10] have very recently detected a higher frequency of HPV and HSV in basaloid tumours than in conventional squamous cell carcinomas in the head and neck, but Cabanillas et al [11] have not found any difference.

There are no specific clinical signs and symptoms of BSCC; they are related to tumour location [12]. Most of the previously reported BSCCs are flat or slightly elevated tumours, often with a central ulceration [2, 12]. Very few cases may show a polypoid pattern [12]. Reported tumor was firm to hard in consistency, occurred as well defined tumor mass having central ulceration.

Clinically BSCC is an aggressive tumor with high rates of nodal (64%) and distant metastasis (44%)[3]. Soriano et al [13] found in a case-control study that BSCC has 6 times higher risk of distant metastasis compared to usual type of SCC. Therefore, a chest CT and FDG-PET are recommended in all cases of BSCC to rule out distant metastasis [3].Though metastasis has been reported in literature but metastasis was not seen in the reported case which may be due to less aggressiveness of tumor.

Solid nests with the typical cell population, basaloid at the periphery and squamous at the centre, are the most common growth pattern of BSCCs [12]. There are two major histopathological features of BSCC. The first is a basaloid component consisting of a solid, lobular growth of small, crowded cells with scant cytoplasm, hyperchromatic round nuclei and small cystic spaces containing PAS or alcian blue–positive myxoid material [10]. The second feature is an intimate association with SCC or dysplasia or the presence of focal squamous differentiation. Other findings are small or large central foci of coagulative necrosis and stromal hyalinosis [2]. Above described finding were present in our case.

Differential diagnosis of BSCC includes adenoid cystic carcinoma (ACC), adenosquamous carcinoma, salivary duct carcinoma, small cell neuroendocrine carcinoma (SCNC), Basal cell carcinoma (BCC) and polymorphous low grade adenocarcinoma. ACC does not show any tendency toward squamous differentiation does contain myoepithelial cells and is essentially devoid of pleomorphic atypical cells, mitosis, and comedonecrosis [14]. It usually metastasizes to distant sites rather than cervical lymph nodes. BSCCs may contain cysts or pseudoadenoid structures and mimic adenosquamous carcinoma. The recognition of mucin positivity and real duct structures in adenosquamous carcinoma resolves the dilemma [12]. Salivary duct carcinomas are characterized by Eosinophilic cytoplasm and irregular cystic space lined by papillary projections which is not seen in BSCC. BSCC and SCNC both may show rosette like structures and sheets of small blue cells. However, SCNC shows characteristic nuclear molding and crushing artefact and is rarely connected to surface mucosa [3]. Squamous differentiation is less frequent in basal cell adenocarcinoma but usually frequent in BSCC. Bland and uniform nuclear features, tubular structures, diverse morphological patterns are characteristic of polymorphous low grade adenocarcinoma which distinguish it from BSCC.

Immunohistochemical staining (IHC) is very helpful to make the differential diagnoses. BSCC is distinguished by positive staining for epithelial markers such as cytokeratin, CAM 5.2, epithelial membrane antigen, CK7, high molecular weight cytokeratin (34ßE12), EMA, CEA, P63 and negative staining for carcinoembryonic antigen, vimentin, neuroendocrine markers (synaptophysin and chromogranin), S-100 Protein, chromogranin, CD56, Ber E P4 and Bcl 2. Neuroendocrine markers are positive for small cell neuroendocrine carcinoma while negative for BSCC. Adenoid cystic carcinoma shows greater reactivity for vimentin, S-100 and smooth muscle actin but BSCC is negative for these. P 63 shows diffused positivity in BSCC and partial positivity in ACC. Ber E P4 and Bcl 2 are negative for BSCC, are helpful to differentiate these tumours from BCC [3]. Undifferentiated carcinoma is an anaplastic neoplasm that shows the absence of diagnostic markers [4].

Aggressiveness of BSCC compared with the conventional squamous cell carcinoma remains a matter of debate. Banks et al [15], Luna et al [16] and De Sampaio et al [17] did not find significant differences in behaviour between these two neoplasms in various anatomical sites, while other have found aggressive nature of BSCC [18].

Treatment of choice is complete surgical excision supplemented by

radiotherapy/ adjuvant chemotherapy [3]. The prognosis of BSCC is reported by some to be worse [2,18] than that of conventional SCC independent of tumor stage, although others have found no difference stage for stage [4,13] .The common factor suggesting that BSCC has a worse prognosis in these studies has been the propensity for BSCC to present in advanced stages and to have higher rates of haematogenous spread. In a case–control study, only patients who had lymph node involvement were included, it was found that patients with the same disease stage, the prognosis for BSCC did not differ from the prognosis for conventional SCC, the most common site of metastases was the lung[4]. However no metastasis was seen in our patient at the time of presentation, which was treated with wide excision of the tumor.

Conclusion- plenty of BSCC cases have been reported in head and neck region, approximately 45 cases have been reported in the oral cavity with a strong predilection for the base of the tongue and floor of the mouth. The literature search was carried out in NCBI Pubmed database using keywords basaloid squamous cell carcinoma and palate; only 3 cases of basaloid squamous cell carcinoma of palate were found. To best of our knowledge these are the fourth reported case of basaloid squamous cell carcinoma of maxilla.

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