**CASE REPORT**

**Basaloid Squamous Cell Carcinoma of Oral Cavity Report of Two Cases**

Divya Gopinath, V.T. Beena, Manju Stephen, R. Sivakumar, Kanaram Choudhary

**Abstract**

Basaloid squamous cell carcinoma (BSCC), a variant of squamous cell carcinoma is a recently recognized high-grade tumor that arises preferentially in the upper aerodigestive tract and carries a grave prognosis. This paper reports two cases of basaloid squamous cell carcinoma of tongue and floor of mouth.

Key words: Basaloid squamous cell carcinoma; basaloid cells; tongue; floor of mouth

**Introduction**

Basaloid squamous cell carcinoma (BSCC) is an uncommon variant of squamous cell carcinoma. The head and neck region appears to represent the most frequent area of occurrence of BSCC with a predilection for the supraglottic larynx, hypopharynx, tonsil, and base of tongue. The term BSCC was initially introduced by Wain et al. in 1986 and was included in the revised edition of WHO classification in 1991. This tumor is considered to be very aggressive and it often presents itself at an advanced stage with cervical lymph nodes and distant metastases. This paper reports two cases of basaloid squamous cell carcinoma of the tongue and floor of mouth.

**Case Report 1**

A 61-year-old male patient reported to the department of Oral Medicine and Radiology with a complaint of an ulcerative growth on the tongue for the last one year. The patient gave a history of multiple teeth extraction few years back due to pain and caries. He did not have any history of tobacco use. On intraoral examination, a large ulcerative growth of 3cm x 2cm was identified on the right lateral border of tongue. It was soft in consistency and tender on palpation. There were multiple carious teeth and root stumps in the posterior region. Oral hygiene was poor, with generalized stains and calculus. The right submandibular lymph nodes were enlarged to a size of approximately 1cm and were tender and not adherent to the underlying structures. A provisional diagnosis of carcinoma of tongue was made and incision biopsy was performed. Microscopically, the tumors consisted of solid islands and nests of basaloid cells. Larger nests showed central comedo-like necrosis and some nests showed homogenous material showing squamous differentiation in the centre (Figure 1). The cuboidal cells at the periphery of the nests were showing nuclear palisading. The basaloid cells exhibited a high nuclear/ cytoplasmic ratio, with dense, hyperchromatic nuclei. Foci of squamous differentiation were also present consisting of cells with plentiful eosinophilic cytoplasm, intercellular bridges and keratin pearl formation (Fig 2). A diagnosis of basaloid squamous cell carcinoma was made and patient was referred to Regional Cancer Centre, Trivandrum, Kerala, India. Unfortunately the patient did not return for follow up.

**Case Report 2**

A 70-year-old male patient presented with a swelling on the lower jaw of three year duration. He gave a history of cigarette smoking for the past fifteen years. Intraoral examination revealed an ulcerative growth involving alveolus extending from the floor of mouth to the labial vestibule and laterally from 43 to 34 region. The growth was tender and the teeth present in the region were showing grade II mobility. Right submandibular lymph node was enlarged. A provisional diagnosis of carcinoma of alveolus was made and incision biopsy was performed. Microscopy revealed overlying parakeratinised stratified squamous epithelium with severe dysplasia. The underlying connective tissue stroma comprised of numerous tumor islands (Figure 3), cords and gland like lobules of hyperchromatic basaloid cells with peripheral palisading arrangement, increased mitoses, a few areas of comedo necrosis and stromal hyalinization (Figure 4).

Few islands showed squamous cells surrounded by basaloid cells. Keratin pearls, increased and abnormal mitotic figures within squamous islands were also evident. The mixed composition of basaloid and squamous cells were characteristic. A diagnosis of basaloid squamous cell carcinoma of lower alveolus was given and patient was referred to Regional Can-
Discussion

BSCC is a histologically distinct variant of squamous cell carcinoma. BSCC comprises of less than 1% of oropharyngeal carcinoma.\(^1\) The pathological features of this subtype of squamous cell carcinoma and its non-specific macroscopic aspect make its diagnosis difficult for the clinician and the pathologist. After the first description by Wain et al. in 1986, less than fifty cases involving the oral mucosa have been reported so far in the literature with a strong predilection for base of the tongue, 61% and floor of the mouth, 30%.\(^5\) They occur predominantly in males \(^1\) with a long history of alcohol and tobacco abuse in their 6th and 7th decades.\(^1\) Metastases occur via lymphatics and blood vessels to lymph nodes and viscera, including the lungs, bone, skin, and brain.\(^1\) The origin for BSCC has been suggested to be from a totipotent cell capable of divergent differentiation located in the basal zone of the surface epithelium or in the minor salivary glands of the submucosa.\(^1\) The pathologic features of BSCC are dominated by the presence of a basaloid cell infiltrate with hyperchromatic nuclei and scanty cytoplasm. There is nuclear pleomorphism and increased mitotic activity including atypical mitoses. Usually the nuclei at the periphery of the neoplastic lobules are aligned in a linear orientation so-called nuclear palisading and this feature may be limited in extent in conjunction with the basaloid cell component of BSCC which include foci of squamous differentiation. The central or comedo-type necrosis is a common finding. Histologically the infiltrating tumor offers a variety of growth patterns, including solid lobular, cribiform, cords, trabaculae, nests and glands or cysts.

BSCC has often been misdiagnosed as adenoid cystic carcinoma of solid type(ACC), basal cell carcinoma (BCC), polymorphous low-grade adenocarcinoma, small-cell undifferentiated neuroendocrine carcinoma, basal cell adenocarcinoma, adenosquamous carcinoma(ASC) and salivary duct carcinoma.\(^2\) Adenoid cystic carcinoma does not show any squamous differentiation and usually metastasizes to distant sites rather than cervical lymph nodes and ACC usually does not show prominent pleomorphism, mitoses or necrosis.\(^6\) ACC often shows immunocytochemical reactivity for S-100 and smooth muscle actin but BSCC is negative for both. Cutaneous basal cell carcinoma may invade into the upper aero digestive tract, but it has different histomorphologic features.\(^8\) Even though irregular nests and lobules of basaloid cells with peripheral palisading in a mucinous or myofibroblastic stroma are seen in BCC no evidence of differentiation or keratinisation is seen in the malignant cells. Tubular structures, bland uniform nuclear features and diverse morphological patterns in polymorphous low grade adenocarcinoma may be used to distinguish them from BSCC. Small cell undifferentiated neuroendocrine carcinoma is rare in the oral cavity, sometimes with pseudo-glandular space and focal necrosis, but squamation is exceptional. Its immunohistochemical activity for neuroendocrine markers or ultrastructural evidence of neuroendocrine markers are not the features of BSCC. Focal necrosis and squamous differentiation usually seen in BSCC are not seen in basal cell adenocarcinoma. Eosinophilic cytoplasm and irregular shaped cystic spaces lined by papillary projections revealed by salivary duct carcinomas are not encountered in BSCC. Adenosquamous carcinoma is usually easy to distinguish from BSCC by the presence of real duct structures. In contrast to BSCC, ASC has a prominent squamous cell component, an absence of basaloid cells with peripheral nuclear palisading, and the presence of glandular differentiation, including intracellular and intraluminal mucin i.e., mucicarmine and diastase-resistant, PAS positive material.\(^6\)

The biological behavior of BSCC appears to be worse than that of conventional squamous cell carcinoma (SCC), and patients with these tumors have an unfavorable prognosis. Yoshihiro et al studied the proliferative activity of two cases of BSCC by employing a sensitive argyrophilic nuclear organizer region (AgNOR) staining method.\(^13\) The number of AgNOR per nucleus of the BSCC was higher than that of any other SCC cases. Expression of p53, MMP-1, MMP-2, and MMP-9 were also reported to be higher in cells of BSCC than in cells of SCC.\(^14\) These results support the opinion that BSCC of the oral mucosa has a worse prognosis than conventional SCC. There is no established consensus for treatment. The treatment of choice in most of the published literature is complete surgical excision supplemented with radiotherapy and, in patients with metastatic disease, chemotherapy. Despite all attempts to control the disease, BSCC presents with increased morbidity and mortality and frequently are fatal within 12 months from the time of diagnosis.\(^14\)

Conclusion

Both of our cases of BSCC were consistent in the case of age, gender and site predilection as well as the histopathology. Basaloid squamous cell carcinomas have been reported to have poorer prognosis as compared to SCCs and so proper diagnosis is inevitable. Characteristic clinical and histopathological features can aid in the early diagnosis of this rare but aggressive variant of squamous cell carcinoma.

Authors Affiliations

1. Divya Gopinath MDS, Senior Resident, Govt Dental College, Calicut, 2. V.T. Beena MDS, Professor and Head, 3. Manju Stephen MDS, Senior Resident, 4. R. Sivakumar MDS, Assistant Professor, 5. Kanaram Choudhary MDS, Junior Resident, Dept. of Oral and Maxillofacial Pathology, Govt. Dental College, Trivandrum, Kerala, India.

References


