



**BASALOID SQUAMOUS CELL CARCINOMA: REPORT OF A
HIGHLY AGGRESSIVE CASE**

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ABSTRACT

Basaloid Squamous Cell Carcinoma (BSCC) is an aggressive variant of squamous cell carcinoma. It has high incidence of lymph node metastasis, recurrence and worst prognosis as compared to conventional squamous cell carcinoma. Base of tongue and floor of

mouth are most common intraoral sites, but rarely involves gingiva and other intra oral location. This is a case report of 45 year old male patient with chronic and heavy tobacco and alcohol abuse, which was diagnosed as BSCC, but succumbed to extensive spread of disease within a year of diagnosis without any treatment.

KEYWORDS: Basaloid Squamous Cell Carcinoma, conventional Squamous Cell Carcinoma, aggressive variant.

INTRODUCTION

Squamous cell carcinoma (SCC) present as a spectrum of disease ranging from less aggressive verrucous carcinoma (VC) with lowest invasive and metastatic potential and excellent prognosis^[1] to a rare highly aggressive basaloid squamous cell carcinoma (BSCC) with early local or regional recurrences and distant metastasis and lower survival rates.^[2] Basaloid squamous cell carcinoma was first reported by Wain et al in 1986.^[3] The most common sites of the tumor in the head and neck are the hypopharynx, base of the tongue and supraglottic larynx, less frequently in the nasal cavity, oesophagus, tonsil and other sites in oral cavity.^[4] BSCC is strongly associated with tobacco and alcohol abuse habits and has worse prognosis than that of conventional SCC.^[5]

Ide et al described the characteristics of oral BSCC such as: (1) a strong predilection for the

base of tongue (61%); (2) an occurrence in an older population with a mean age of 61 years; (3) no male predominance (56%); (4) an advanced clinical Stage III or IV presentation (62%); (5) an aggressive clinical course characterized by a high incidence of cervical lymph node metastases at the initial presentation (47%); (6) local recurrence (32%); (7) subsequent lymph node metastases (52%); and (8) death from disease (38% mortality at 18 months median follow-up).^[6] These features suggest that the BSCC has poor prognosis and worst clinical outcome.

Clinically it may present as ulcerated or exophytic mass with submucosal soft tissue infiltration with increased bleeding tendency.^[7]



Fig1: first visit

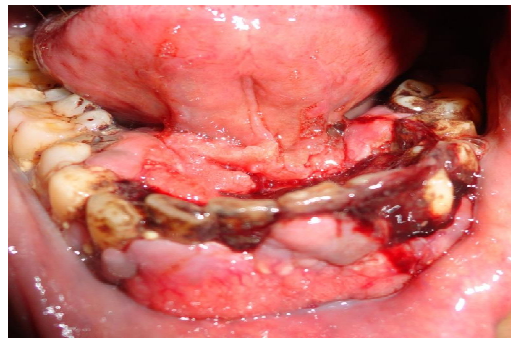


Fig 2: intraoral picture at first visit

Histopathologically BSCC as described by Wain et al shows biphasic pattern. First pattern is characterised by, solid growths of small crowded cells with scanty cytoplasm; dark, hyperchromatic nuclei without nucleoli; small cystic spaces containing material resembling mucin that stained with periodic acid–Schiff (PAS), Alcian blue, or both. Central coagulative necrosis (comedo necrosis) and hyalinosis are also prominent features. The second histopathologic pattern shows an intimate association of squamous cell carcinoma, usually in superficial location; overlying surface epithelium with

dysplasia or focal squamous differentiation within the basaloid tumor islands in the overlying epithelium.^[3]

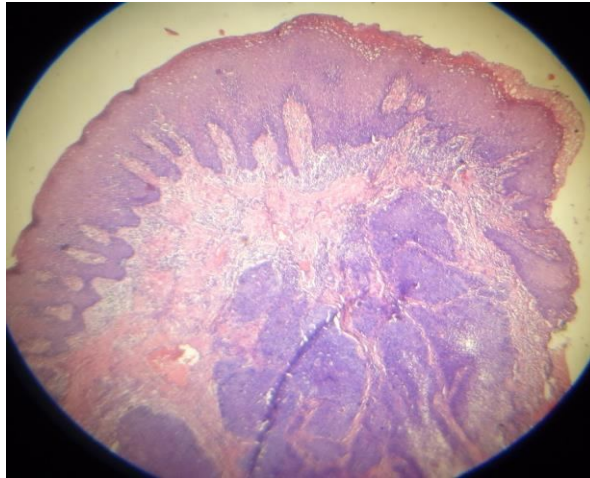


Fig: 3(4X): basaloid cells arranged in solid, lobular configuration within connective tissue

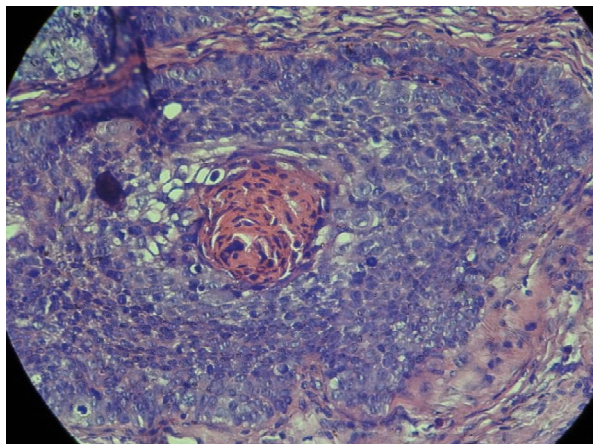


Fig 4: (10X): Tumour contains biphasic tumour mass. First component consisted of predominately basaloid cells and second tumour component was made up of squamous cells.

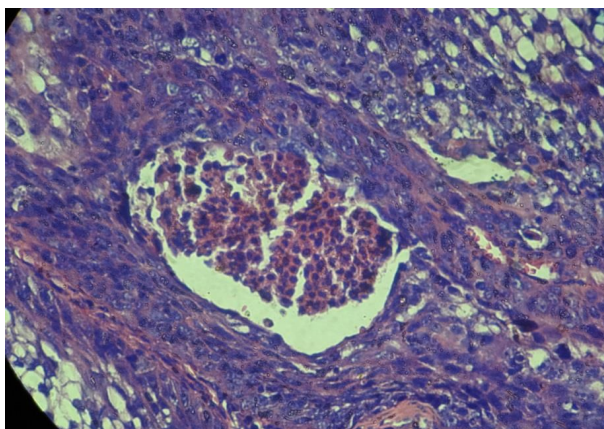


Fig 5: (40X) The central portion of these lobules shows comedo-necrosis

CASE REPORT

A 45 year old patient presented with the chief complaint of pain, swelling and bleeding from lower anterior region of mouth since 10 days. Patient also complained of mobility of lower anterior teeth since then. There was no relevant medical or dental history. Patient had habit of gutkha and tobacco chewing since 10 to 15 years 5 to 10 times a day, bidi smoking since 15 years 15 to 20 bidies per day and alcohol intake since same period every day. Patient appeared very reluctant about his condition, came just because of family pressure and was not willing to quit any of his habits.

On extra oral examination, round to oval swelling over the lower anterior region, approximately of size 2X3 cms was seen. Submandibular and sub-mental lymph nodes were palpable, enlarged, tender and mobile bilaterally. Intraoral examination showed exophytic growth involving labial and lingual gingiva of 33 to 43 and extending to floor of mouth and base of tongue antero- posteriorly and 36 to 46 laterally on lingual side. Overlying surface mucosa was nodular, ulcerated at places with indurated and ill-defined borders. Lesion was soft to firm on palpation and associated with profuse bleeding without provocation. Oral hygiene was poor. There was grade III mobility of all lower anterior teeth. Radiographically, radiolucent lesion approximately of size 2 X 3 cms extending from 33 to 43, with irregular margins and associated with root resorption of 31 and 41 was seen. Incisional biopsy revealed parakeratinized stratified squamous epithelium with dysplastic features like increased nuclear cytoplasmic ratio, cellular and nuclear pleomorphism, abnormal.

Mitotic activity and basilar hyperplasia and basement membrane was indistinct at places. The connective tissue consisted of biphasic tumour mass. First component consisted of predominately basaloid cells arranged in solid, lobular configuration, made up of small, round to oval cells with dark hyperchromatic nuclei and scant cytoplasm. These lobules were surrounded by the band of hyalinised connective tissue. The central portion of these lobules shows comedo-necrosis. The second tumour component was made up of squamous cells with individual cell keratinization and prominent intercellular bridges. PAS stains showed indistinct basement membrane and foci of material within some lobules.

The final diagnosis of basaloid squamous cell carcinoma of floor of mouth with involvement of mandibular alveolus was made. The patient was referred for further treatment which he refused and lost to follow up. Few attempts were made to convey

the need for treatment through telephonic conversations but were unsuccessful.

Patient returned after 10 months with huge swelling in mandibular anterior region, approximately 7 X 8 cms in size, roughly round to oval in shape, with overlying skin surface ulceration, borders were ill defined and induration. Patient had generalized weakness and could not walk without any support. The alcohol intake and bidi smoking habit was persistent but tobacco chewing was left because of inability to open the mouth. Along with submandibular lymph nodes, bilateral cervical and supraclavicular group of lymph nodes were palpable, enlarged, tender and fixed. Intraoral examination was not possible due to restricted mouth opening, but showed loss of both central and lateral incisors and extensive intraoral involvement till last tooth seen i.e. mandibular 2nd molars, also buccal mucosa bilaterally. Patient was advised hospitalization and treatment, which he again refused and died without any treatment within a month.

DISCUSSION

BSCC was included as a distinct entity in WHO 1991 classification of head and neck tumour. BSCC is defined by WHO 2005 classification as “an aggressive, high grade, variant of SCC composed of both basaloid and squamous component”. Tobacco and alcohol abuse have been proven to be strong risk factors for BSCC and when taken together cause synergistic effects and worsen the condition.^[8] Present case is also associated with strong tobacco (smokeless and smoke) and alcohol abuse since long period, which could be the reason for aggressive presentation.

In the oral cavity base of the tongue (61%) and floor of mouth (30%) are most common sites followed by other sites in the oral cavity.^[6] Attached gingiva and alveolus is involved in very few cases. It has slight predominance for males in 6th to 7th decade of life.^[9,10] Pain and bleeding are the most common presenting symptom in the patients with BSCC.

More than two third patients were associated with heavy use of tobacco or alcohol, or both and these patients were associated with poor clinical outcome.^[11,12,13,14] Present case is of male patient in 5th decade, which involves base of tongue, floor of mouth, attached gingiva and alveolar bone. In this case, the major complaint was swelling, pain and bleeding followed by restricted mouth opening. Patient had heavy addiction for tobacco, gutkha chewing, bidi smoking and alcohol consumption.

BSCC patients at stage III and IV account for 65% of all known cases. Ide et al reviewed 46 patients with oral BSCC in the literature and reported 62% of the patients to be in the advanced stage.^[2] The rate of cervical lymph node metastasis reported in the literature varies between 40% and 70%, while that of distant metastasis was up to 75%.^[13,15,16,17,18]

Winzenburg et al. stressed that BSCC tumor with nearly pure basaloid features had a better prognosis than tumors consisting of a mixture of basaloid and squamous features.^[2] Erisen et al. were unable to support this theory.^[19] The basaloid component and squamous cell component was present in the connective tissue of the tumour with epithelium showing carcinomatous changes, although basaloid component was predominant as compared to squamous component.

Although study by Fernanda C et al found no significant difference in clinical out come in the patients with BSCC compared to conventional SCC.^[20] Coppola et al compared the clinical course and survival rate of BSCC of the floor of the mouth with conventional SCC, and found that a higher recurrence rate and worse prognosis in BSCC than with conventional SCC.^[21] Abliko et al also studied the cell lines from BSCC of floor of mouth and found that, these cell lines exhibited highly invasive capacity, supporting very aggressive behavior of BSCC.^[22]

Winzenburg et al studied the BSCC with poorly differentiated SCC (PDSCC) in stage and site matched study groups and found that the patients with BSCC have advanced disease at presentation. Survival in the BSCC group was less than half of that in the PDSCC groups.

Presence of neck nodal disease on presentation predicted poor survival. The possibility of distant metastases in present case could not be denied as distant metastases occurred in 52% of patients with BSCC and in 13% of patients in the PDSCC group. Because of this accelerated incidence of distant metastases even with relatively small primary tumors, BSCC was suggested to be treated as a systemic illness rather than a localized process from the time of diagnosis.^[23]

BSCC should be differentiated from adenoid cystic carcinoma, adeno-squamous carcinoma, mucoepidermoid carcinoma, basal cell adenocarcinoma and polymorphous low-grade adenocarcinoma. The features which help to differentiate the BSCC from ACC are

as follows: (1) the classic cribriform patterns are limited when present in BSCC; (2) ACC even in the solid type, nearly always includes well-formed tubular structures; (3) nuclear pleomorphism, mitoses and necrosis are rare in ACC; (4) focal squamous differentiation in the basaloid nests is only rarely evident in ACC^[24] (5) most importantly, ACC does not exhibit carcinomatous change in the surface epithelium.^[6] Adenosquamous carcinoma can be distinguished from BSCC based on evidence that adenosquamous carcinoma demonstrates an involvement and association with ductal epithelium and mucinous.^[3]

Mucoepidermoid carcinoma and BSCC share some resemblance in exhibiting a squamous or epidermoid component. However mucus cell differentiation which occurs in mucoepidermoid carcinoma is not a feature of BSCC. Conversely, the cribriform basaloid growth pattern of BSCC is not encountered in the mucoepidermoid carcinoma. The basaloid component of BSCC arranged in a solid or trabecular pattern may emulate those of basal cell adenocarcinoma. In this instance, the key distinguishing feature is the presence of squamous differentiation and invasive squamous cell carcinoma both of which forms an integral component in BSCC but are not features of basal cell adenocarcinoma.^[25]

BSCC is reported by most authors to be a highly aggressive. So, aggressive treatment is required such as surgery with neck dissection in conjunction with radiotherapy or chemotherapy.^[23] In spite of aggressive treatment, the survival rate was less as compared to conventional SCC. Raslan et al reported 38% mortality rate and median survival of 17 months.^[26]

Yu GY et al compared 3-year and 5-year survival rates for BSCC and SCC and reported it be 53% and 32% for BSCC and 80% and 70% for SCC respectively.^[8] Ferlito et al reported 5 years survival of only 17.5% for BSCC.^[27,28] So the survival rate in the patient with BSCC is poor irrespective of treatment employed. In present case, patient refused to undergo any sort of medical intervention and within one month of second clinical visit, he succumbed to disease.



Fig 6: second/ last follow up after 10 months

CONCLUSION

Present case report further underlined the previous findings about BSCC which is known to have poor prognosis and survival rate as compared to conventional SCC. Presentation in advanced stage and reluctance of patient to undergo treatment worsened the condition further; with eventual death of patient.

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