Basaloid squamous cell carcinoma

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Abstract

Basaloid squamous cell carcinoma (BSCC) is a rare variant of squamous cell carcinoma characterized by a conglomerate of clinically aggressive course and disparate histopathological features. It is frequently seen in upper aerodigestive tract area. Histopathologically, it is biphasic and composed of two types of tumor cells, namely basaloid and squamous cells. Tumor markers, namely, BerEp4, epithelial membrane antigen and p53 are used in this case to differentiate from similar tumors which impersonate BSCC histologically but differ prognostically. We report a case of BSCC in a 48-year-old female patient, involving the lateral border of the tongue with an exhaustive picture of its histological and immunohistochemical appearance.

Keywords: Basaloid squamous cell carcinoma, BerEp4, epithelial membrane antigen, oral cavity, oropharynx, p53, squamous cell carcinoma

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Submitted: 23-Oct-2021, **Accepted:** 29-Oct-2021, **Published:** 11-Jan-2022

INTRODUCTION

Basaloid squamous cell carcinoma (BSCC) is an aggressive and histologically distinct variant of squamous cell carcinoma, first described by Wain *et al.* in 1986.[1] It has a predilection for upper aerodigestive tract. It is rarely seen in oral cavity with predilection for base of the tongue.[2] It commonly affects males usually above sixth decade.[3] It is considered to be more aggressive when compared to classical squamous cell carcinoma, due to its frequent metastasis.[4] The presence of ulceration makes it difficult to diagnose histopathologically, as it might mask the origin from the superficial mucosa. In the above scenario, it is prudent to use the immunohistochemistry markers which can help us in supporting the diagnosis. We are present a case of similar situation where three tumor markers are used namely p53, BerEp4 and epithelial membrane antigen (EMA) to establish the diagnosis.[5-7]

Access this article online

Quick Response Code:

Website: www.jomfp.in

DOI: 10.4103/jomfp.jomfp_382_21

CASE DETAILS

A 48-year-old female patient came with the chief complaint of difficulty in opening the mouth and painful ulcer in the tongue for the past 6 months. Medical history reveals no significant findings. The patient had no history of tobacco habits and was well built. On extraoral examination, submandibular lymph nodes were palpable on the left side which was firm in consistency. On intraoral examination, an ulceroproliferative lesion was found on the left lateral side of the tongue measuring 3 cm × 2 cm, which was firm in consistency with indurated margin.

Microscopic findings

1. Overlying epithelium showed dysplastic stratified squamous epithelium infiltrating into the underlying connective tissue [Figure 1a]
2. Two types of tumor cells, namely squamous cells and basaloid cells, are seen [Figure 1b]

How to cite this article: Manikandan VJ, Krishna PS, Raj LS, Sekhar P. Basaloid squamous cell carcinoma. J Oral Maxillofac Pathol 2021;25:533-6.

3. Tumor cells are characterized by sheets of basaloid cells with hyperchromatic nuclei and scanty cytoplasm predominantly arranged in lobular pattern [Figure 1c and d]
4. Squamous differentiation seen in center of tumor islands [Figure 2a]

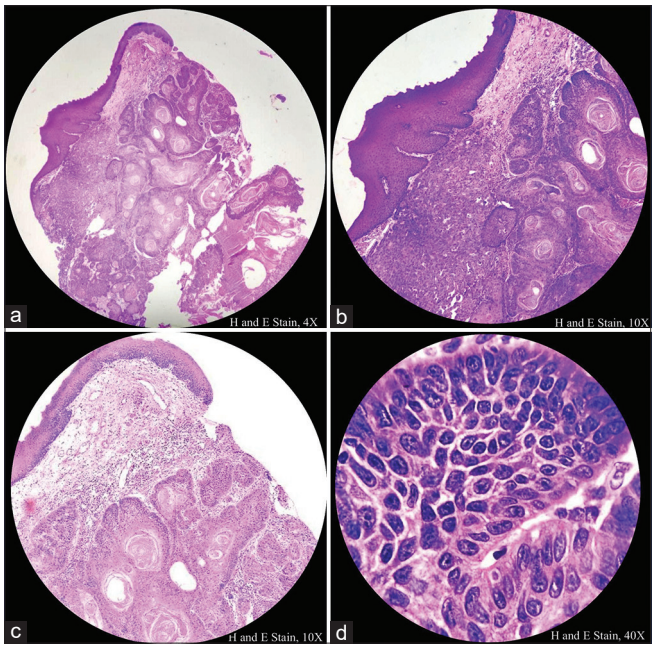

Figure 1(a-d): Histopathological image shows overlying dysplastic stratified squamous epithelium infiltrating into the underlying connective in the form of sheets and lobular pattern. Tumor cells show hyperchromatic nuclei, scanty cytoplasm

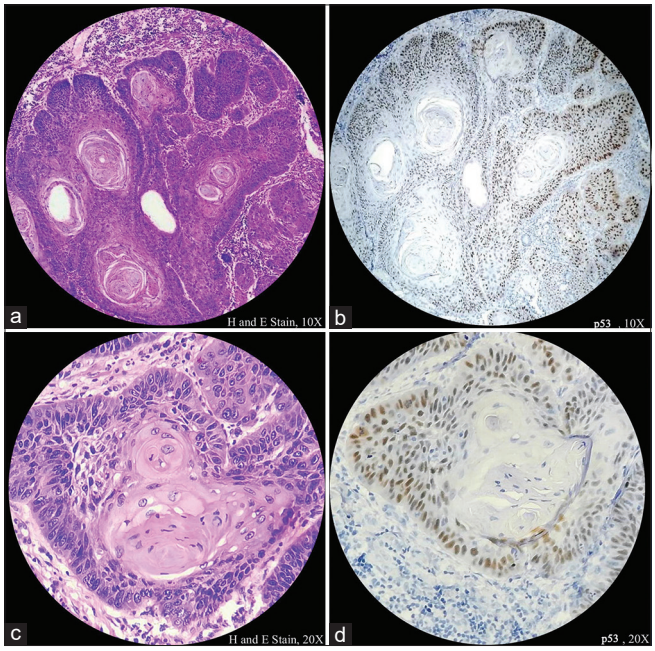

Figure 3(a-d): Histopathological image shows tumor cells stained positive for p53 except in the areas of squamous differentiation within tumor island

5. Tumor cells show peripheral palisading [Figure 2b], marked mitotic activity [Figure 2c] and skeletal muscle infiltration [Figure 2d].

Immunohistochemistry findings

1. Tumor cells stained positive for p53, except in the areas of squamous differentiation in the center of tumor island [Figure 3a-d]

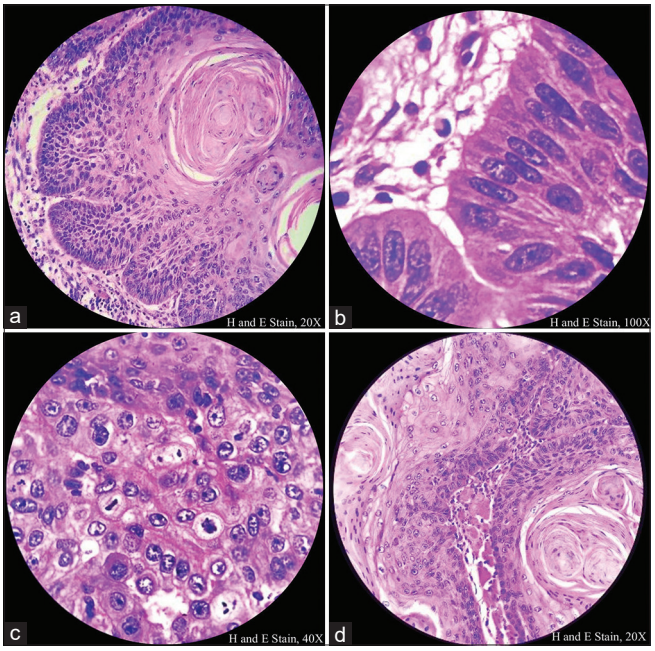

Figure 2(a-d): Histopathological image shows central squamous differentiation, peripheral palisading, increased mitotic activity and skeletal muscle infiltration of tumor cells

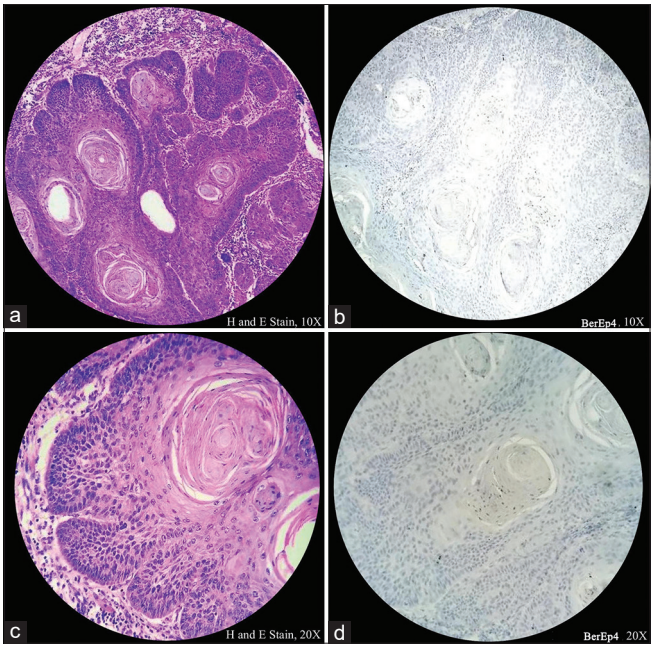

Figure 4(a-d): Histopathological image shows tumor cells stained negative for Ber-Ep4

Table 1: Differential diagnosis

Tumor	Histopathology features	Immunhistochemistry feature	Our case
Basosquamous carcinoma	Basal cell carcinoma component with basaloid cells showing peripheral palisading, coexisting with squamous cell carcinoma component	BerEp4 – Positive EMA – Negative	BerEp4 – Positive EMA – Negative
Adenoid cystic carcinoma	Tumor cells do not show marked nuclear atypia and mitotic figures, while hyaline material is extensively seen. Squamous differentiation within tumor islands and/or overlying dysplastic epithelium is usually absent	EMA – luminal cells shows positivity	
Small cell endocrine carcinoma	Small hyperchromatic cells with scanty cytoplasm, absence of nucleoli and presence of necrosis	EMA – Positive	EMA – Negative (except areas of squamous differentiation)
Adenosquamous carcinoma	Presence of ductoglandular differentiation and intracellular mucin Absence of basaloid cells with peripheral palisading	p53 – Positive	p53 – Positive
Squamous cell carcinoma	Lacks basaloid cells with increased mitotic activity, peripheral palisading and comedo necrosis	BerEp4 – Negative EMA – Positive	BerEp4 – Negative EMA – Negative (except areas of squamous differentiation)

EMA: Epithelial membrane antigen

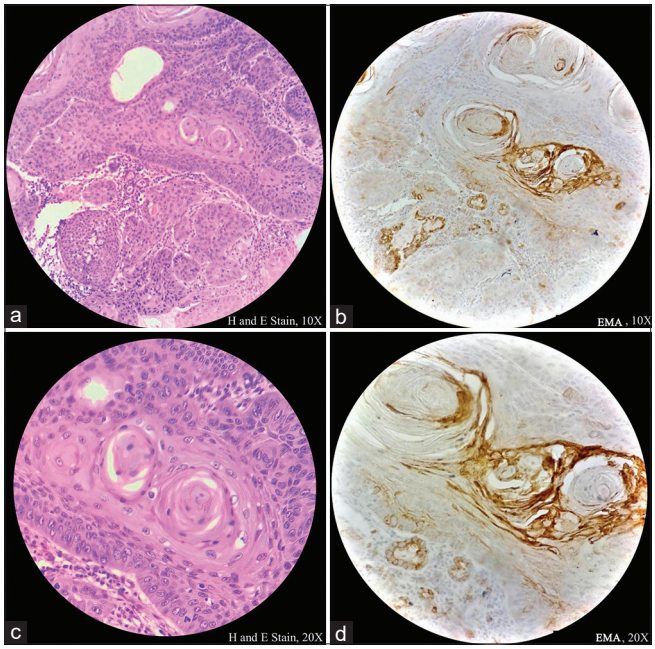

Figure 5(a-d): Histopathological image shows tumor cells predominantly stained negative for epithelial membrane antigen. Focal positive stain is seen in the areas of squamous differentiation

2. Tumor cells stained negative for BerEp4 [Figure 4a-d].
3. Tumor cells stained positive for EMA, except in the areas of squamous differentiation within tumor island, which stained positive for EMA [Figure 5a-d].

Differential diagnosis of BSCC is mentioned in Table 1,[8-14] Final diagnosis was made BSCC.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that his name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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