CASE REPORT

Oral Carcinoma Cuniculatum – A Diagnostic Dilemma

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Abstract

We reported a rare case of oral carcinoma cuniculatum, a variant of oral squamous cell carcinoma that has bland cytomorphologic features, and a peculiar and characteristic growth pattern. Despite the lack of cytologic atypia, the tumour exhibited locally aggressive and infiltrative behaviour. And also, interestingly immunohistochemcical markers were analysed to further support the diagnosis.

Key words: Carcinoma Cuniculatum, Oral Squamous Cell Carcinoma, Immunohistochemistry, Cytology, Tumour Growth, Epithelioma.

Introduction

Oral carcinoma Cuniculatum (OCC) is a rare, unacquainted variant of oral squamous cell carcinoma (OSCC). It has been identified with a plethora of synonyms including epithelioma Cuniculatum, Busche-Lowenstein tumour and inverted verrucous carcinoma.[1]

It is similar to cutaneous Carcinoma Cuniculatum in its Clinico-pathological and biological behaviour, which was first described by Aird et al. in 1954. In the oral cavity OCC was first described by Fliegar S and Owanski T in 1977. The etiological factors include tobacco, alcohol, trauma and Human Papilloma virus (HPV). Although it is a variant of OSCC, the diagnosis of oral CC remains very difficult and challenging because of lack of awareness and familiarity with the tumour, which in turn has resulted in under-reporting of OCC.[2]

We present a case of a 77-year-old female patient who reported with reddish patch with pebbly surface in the left upper posterior region.

Case Report

A 77 years old female came with the chief complaint of inability to open the mouth completely with vague pain in the left upper posterior region, involving the edentulous area in relation to 26, 27 and 28 regions, alveolar mucosa and posterior palatal mucosa roughly measuring about 4x4cm with an irregular margin. On intra oral examination the lesion appeared as a mild reddish smooth patch excepting for focal small pebbly areas. On palpation, the lesion was soft in consistency with mild pain. Patient gave a previous history of OSCC of the left buccal mucosa 3 years back which was surgically excised followed by radiotherapy. On correlating the clinical findings and history the provisional diagnosis of verrucous carcinoma was given.

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The incisional biopsy of the lesion was performed and specimen submitted for histopathological evaluation. On grossing, the specimen was 0.7x1x0.5 cm in size, ovoid in shape, smooth with pebbly surface and firm in consistency. (Fig 1) The H and E stained histopathological sections revealed hyperplastic stratified squamous epithelium, with elongated broad rete-process with few rete process extending into the deep connective tissue in a burrowing Pattern (arrow) with crypts filled with keratin. Islands of tumour cells were seen within the underlying connective tissue showing cellular and nuclear pleomorphism and features of mild cellular atypia. Some areas of the epithelium also show nuclear and cellular pleomorphism, altered nuclear cytological ratio, mitotic figures and loss of stratification with broad rete process resembling verrucous carcinoma. (Fig 2)

The sections were further subjected to Immunohistochemistry analysis using SATB2 specific marker, P53 (anti-apoptotic marker) and Ki 67 (proliferative marker). The IHC reports revealed SATB2-focal area positive expression, P53

– positive expression and Ki 67 – 40-50% positive expression (Fig 3). On correlating the clinical findings, histopathology and Immunohistochemistry the case was confirmed as Carcinoma Cuniculatum. Surgical excision was advised but the patient underwent the surgery after one year.

Discussion

OCC represents one of the rarest variants of OSCC. This term is least heard and discussed because of the rarity in reporting in medical literature. Aird et al. First described the OCC and later Fliegar and Owinski (1997) reported a case of OCC.

It was recently added to the WHO classification in 2005 however, most oral clinicians are unfamiliar with this entity and often misdiagnosed, leading to high fatal outcomes due to improper treatment planning.[2, 3]

The diagnostic feature of OCC is well differentiated epithelial cells with lack of cytological atypia, exhibiting blunt papillary/pebbly surface and keratin filled crypts extending deep in the connective tissue. These keratins filled crypts mimics classic 'rabbit burrow' pattern to OCC. It has been noted that many pathologists are unacquainted with the lesion and the diagnostic criteria is not defined which has resulted in misdiagnosing of the lesion.[4, 5]

The histopathological differential diagnosis includes well differentiated OSCC and Verrucous Carcinoma. OCC and VC demonstrate a peculiar overlap in their histological and clinical presentation, but they demonstrate a different biological course. Hence, differentiation of the two lesions is essential. Both the lesions present with exophytic and endophytic components. The exophytic component of OCC has a blunt papillary/ cobblestone appearance whereas; VC has vertical fronds or 'church spire-like' structure. Epithelial clefting and parakeratin plugging are hallmarks of VC whereas; OCC shows complex burrowing and branching of keratin filled crypts. VC

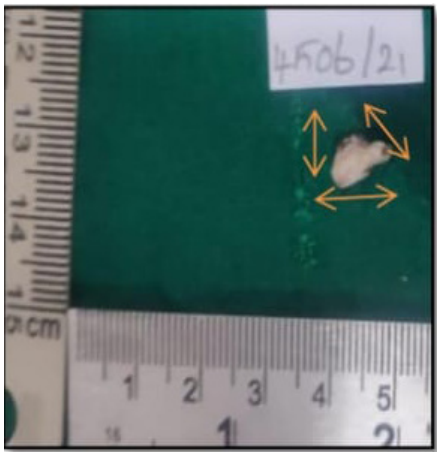

Fig. 1 Grossing of the specimen

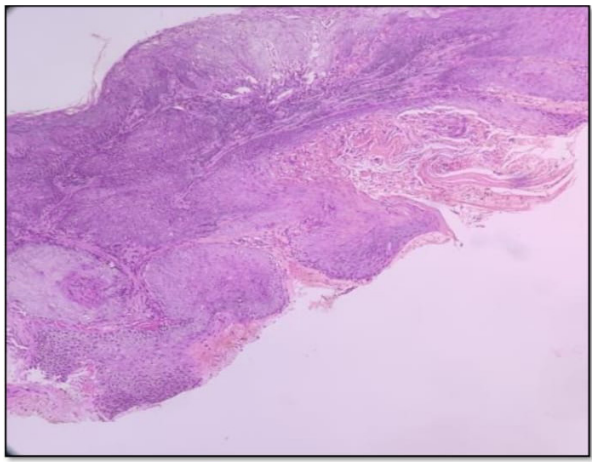

Fig. 2 Few rete process are extending into the deep connective tissue like burrowing Pattern (arrow) with the mild cytological atypia and crypts filled with keratin (*). Islands of tumour cells seen within the underlying connective tissue showing cellular and nuclear pleomorphism

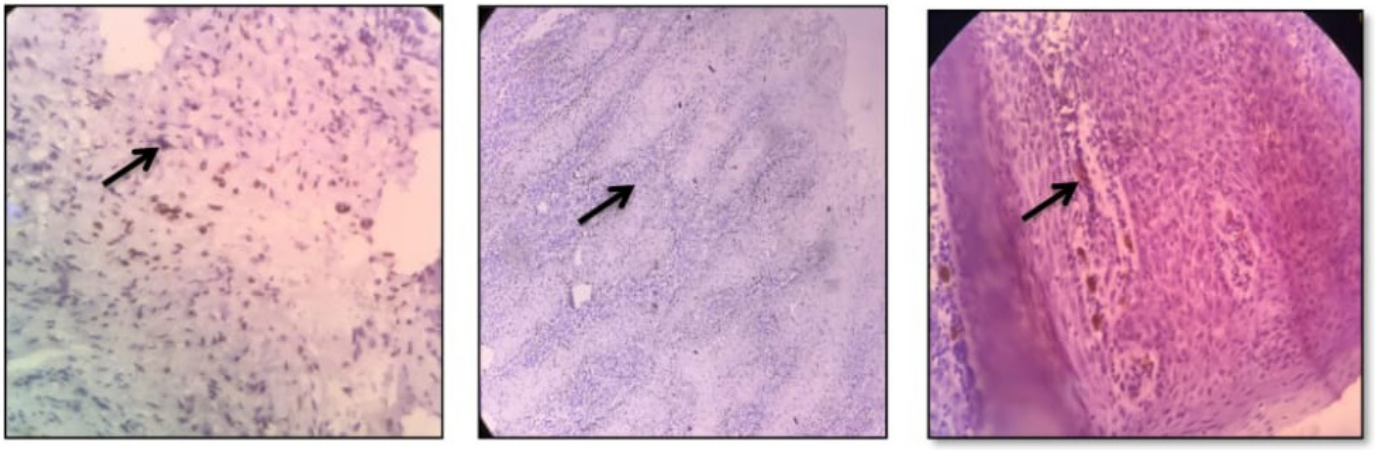

Fig. 3(a) SATB2-focal area positive expression **(b)** Ki 67 – 40-50% positive expression **(c)** P53 – Positive expression

has predominantly exophytic component but more restrained pushing front with broad bulbous rete process and it is limited to lamina propria. On the other hand, OCC has been reported with deep burrowing into underlying muscles and bone.[1, 6, 7, 8]

Cell cycle-regulated proteins exhibit high patterns of expression in tumour lesions. Tumour suppressor gene, p53 is a dominant transforming oncogene and the up-regulation of p53 might result in defective apoptosis and subsequent tumour progression in the oral cancer. In the present lesions, immune-positivity of p53 was 80%.

Ki-67 is a classic proliferation-associated human nuclear antigen and is expressed in all continuously cycling cells than in resting cells. Over expression of Ki-67 indicates active proliferation of tumour cells. In the present lesion it showed about 40-50% of positive expression. Expression of Special AT-rich sequence-binding protein 2 (SATB2) is a prognostic relevance marker which is an alternative to CDX2 marker, which showed focal positivity in our case.[8, 9]

Conclusion

To reach the correct diagnosis clinic-pathological correlation is very important. Adequate sampling and proper diagnosis aids in proper treatment planning. Diagnosis of OCC requires familiarity with the entity and awareness of the clinical and histopathological parameters.

Ethical consideration

Patient consent was obtained before submission of the manuscript.

Author disclosure

There is no conflict of interest.

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