

# Tumours Resembling Oral Squamous Cell Carcinoma (OscC)

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## **ABSTRACT**

*Oral squamous cell carcinoma (OSCC) is the most important malignant tumour in the oral cavity. 90-95 % of cases were encountered as OSCC in dental practice. Diagnosing the OSCC is a challenging task for oral pathologists because the histopathological features of certain lesions might be confusing with the histopathological features and clinical features of OSCC. Thorough clinical examination, history taking and knowledge about the histopathological features of OSCC and other tumours mimicking OSCC helps an oral pathologist to derive a proper diagnosis and thus treatment can be planned accordingly. This review article discusses about the lesions which are resembling OSCC.*

**KEYWORDS:** *Verrucous carcinoma, Actinic keratosis, Keratoacanthoma*

## **INTRODUCTION**

In dental practice various oral lesions were usually seen by the dentist hence the dental practitioner must have an appropriate knowledge to distinguish the oral mucosal lesions. Thorough history taking and clinical examination helps in differentiating other oral lesions from oral squamous cell carcinoma (OSCC). Ulcerations originating from trauma or infection should be differentiated from oral squamous cell carcinoma (OSCC)<sup>1</sup>. Squamous cell carcinoma is the most common malignant tumours of the oral cavity. It comprises 90-95 % of all oral malignancies. Usually dentist encounter oral cancer as a serious problem during their dental practice. There are certain lesions which resembles oral squamous cell carcinoma (OSCC). They are: Verrucous carcinoma, pseudoepitheliomatous hyperplasia, Keratoacanthoma, Actinic keratosis, Verrucous vulgaris, Verruciform xanthoma, Proliferative verrucous leukoplakia and mucoepidermoid carcinoma. This review article discusses about the various tumours resembling oral squamous cell carcinoma (OSCC).

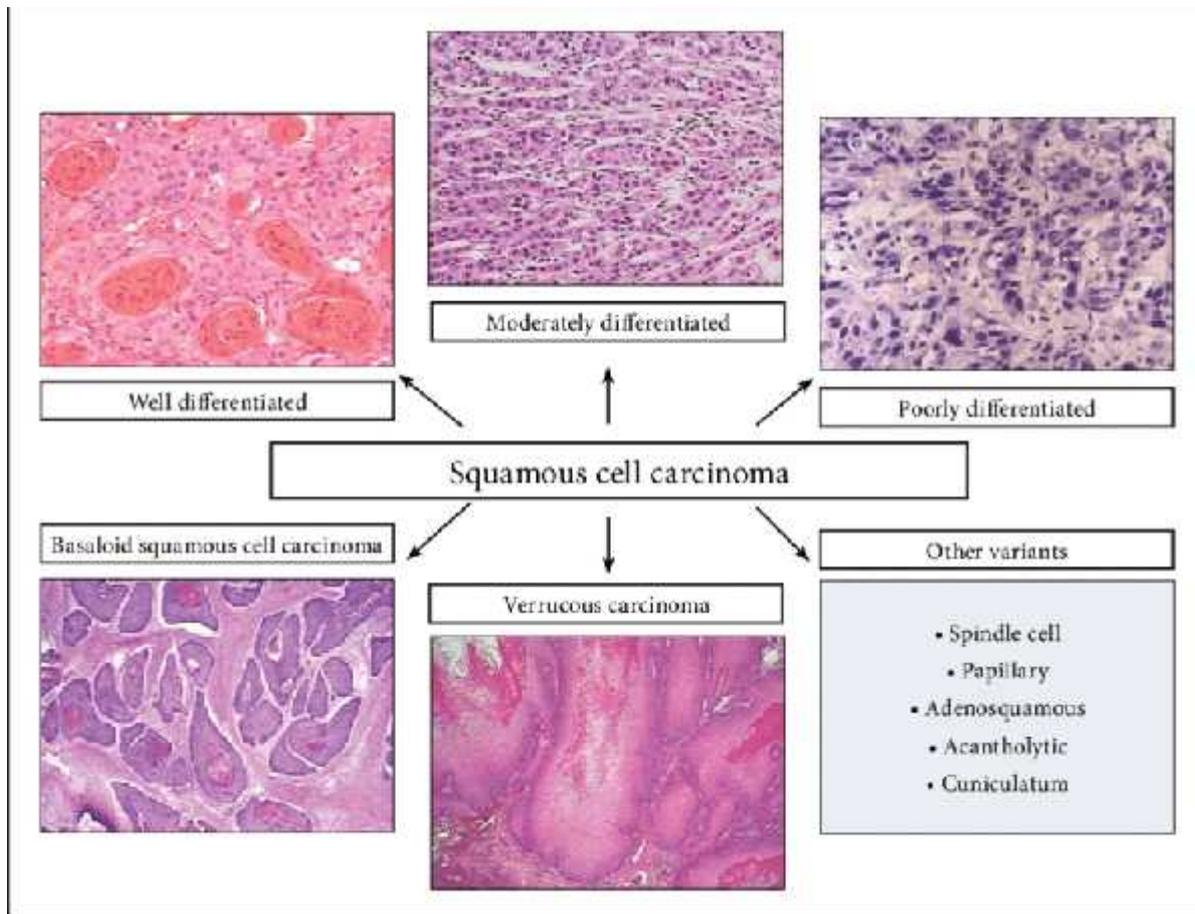
## **SQUAMOUS CELL CARCINOMA**

Squamous cell carcinoma arises from the dysplastic surface epithelium. The various cytological and architectural features described to grade epithelial dysplasia are: <sup>1,2,3</sup>

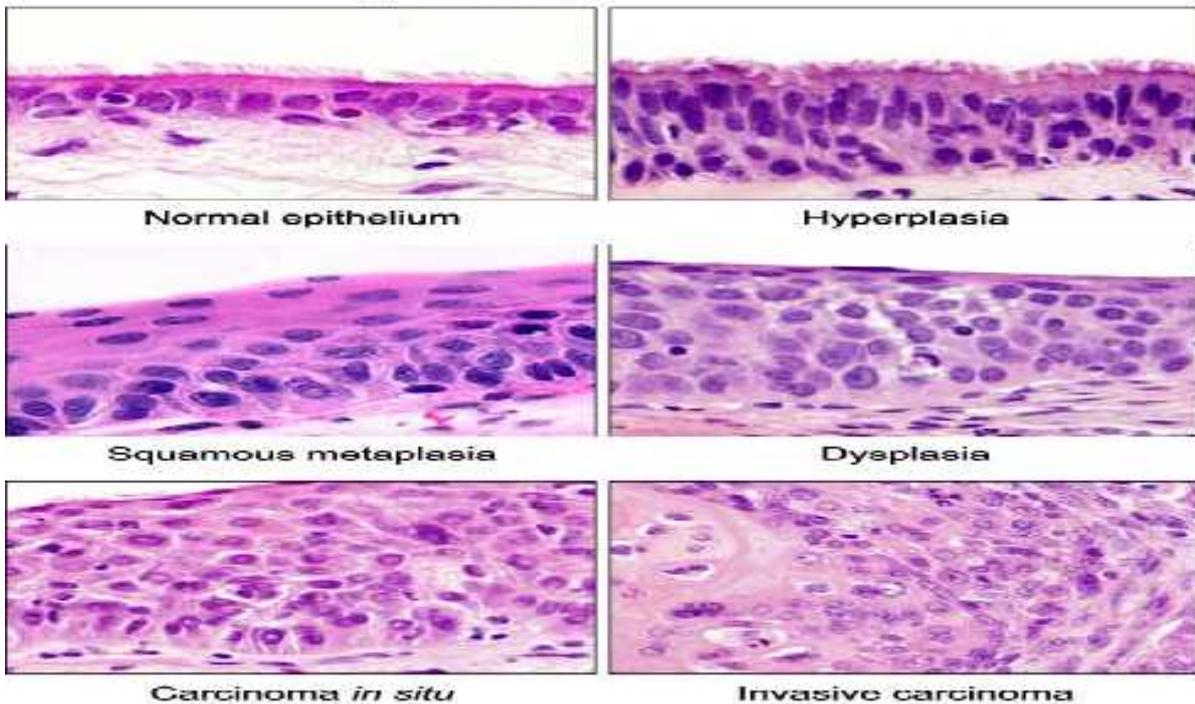
### **SQUAMOUS CELL CARCINOMA**

1. Drop shaped rete pegs
2. Disturbed polarity of the basal cells
3. Basal cell hyperplasia
4. Irregular epithelial stratification or Disturbed maturational sequence
5. Cellular pleomorphism/anisocytosis
6. Nuclear hyperchromatism
7. Prominent nucleoli
8. Increase in nuclear cytoplasmic ratio
9. Increased mitosis and Abnormal mitosis
10. Loss of cellular adhesion and cohesion
11. Intraepithelial keratinization

**FIGURE 1: SQUAMOUS CELL CARCINOMA AND ITS VARIANTS**



**Squamous cell carcinoma**



- According to the dysplastic features, grading and variants of oral squamous cell carcinoma can be diagnosed.
- There are certain lesions which seem to be mimicking Oral squamous cell carcinoma. They are:

#### **VERRUCOUS CARCINOMA**

- The epithelium is hyperplastic in nature with numerous keratin projecting superficially. Bulbous rete ridges are appreciated.
- Characteristic sign of this tumour is parakeratin plugging.<sup>4</sup>
- Above the basal and suprabasal layers minimal or no pleomorphism can be noted in a classic case.<sup>5</sup>
- Lymphoplasmacytic inflammatory host reaction is observed, in some cases where keratin has plunged deep into the connective tissue inducing foreign body granuloma formation.

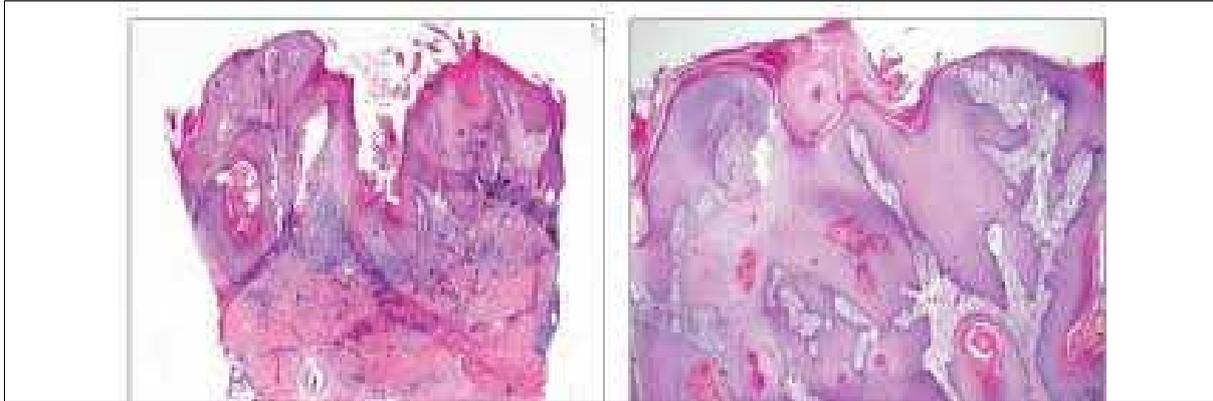
**FIGURE 2: VERRUCOUS CARCINOMA SHOWING PARAKERATIN PLUGGING**



#### **PSEUDOEPITHELIOMATOUS HYPERPLASIA**

- Epithelium shows degree of epithelial thickening, hyper granulosis and ortho- or parakeratosis.
- Proliferating epithelial tongue like projections anastomose with each other thus entrapment of stromal compartment.<sup>6</sup>
- It consists of elongated thick downward projection of the epithelium with jagged borders and a pointed base.
- It has concentric layers of keratinocytes with a focal central keratinization, which is keratin pearl formation. Mitotic figures may be seen, but they are not abundant or atypical<sup>7</sup>

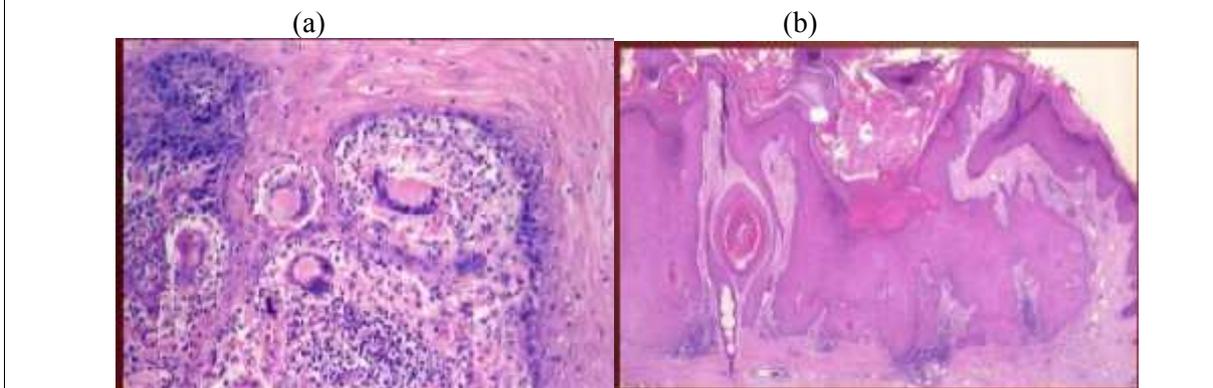
**FIGURE 3: PSEUDOEPITHELIOMATOUS HYPERPLASIA SHOWING CONCENTRIC LAYERS OF KERATINOCYTES WITH A FOCAL CENTRAL KERATINIZATION**



### KERATOACANTHOMA

- Hyperplastic squamous epithelium extending into the underlying connective tissue.
- The epithelial cells shows dysplastic features and the surface is covered by a thickened layer of parakeratin or orthokeratin with central plugging.
- Classic keratoacanthoma reveal a peripheral zone formed by squamous cells with atypical mitotic figures, hyperchromatic nuclei and loss of polarity<sup>8</sup>

**FIGURE 4: KERATOACANTHOMA (a) SHOWING HYPERPLASTIC SQUAMOUS EPITHELIUM EXTENDING INTO THE UNDERLYING CONNECTIVE TISSUE (b) SHOWING PARAKERATIN OR ORTHOKERATIN WITH CENTRAL PLUGGING**

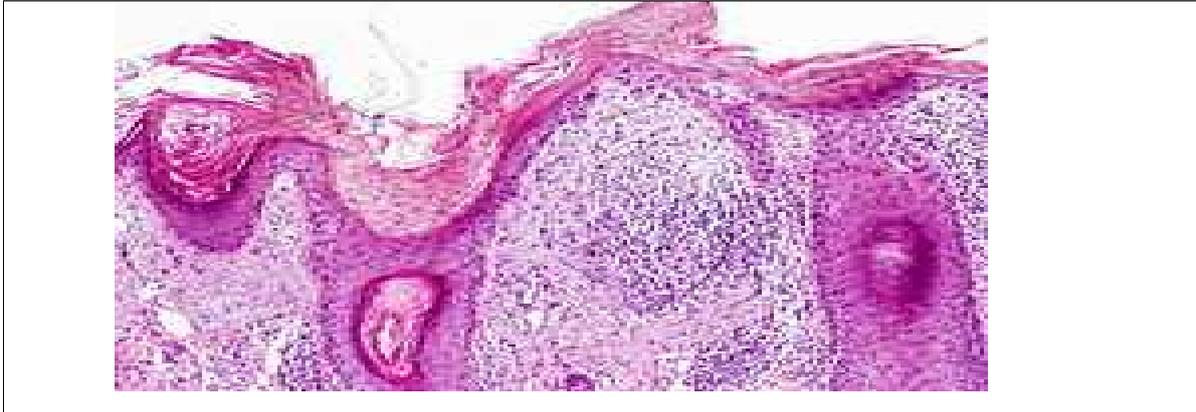


### ACTINIC KERATOSIS

The epithelium shows

- Hyperkeratosis
- Acanthosis
- Tear drop shaped rete ridges
- Dysplasia may be present. If dysplasia is in full thickness then it is known as Bowenoid keratosis<sup>9</sup>

**FIGURE 5: ACTINIC KERATOSIS SHOWING TEAR DROP SHAPED RETE RIDGES**



### VERRUCOUS VULGARIS

- Proliferation of stratified squamous epithelium into finger like projection
- Prominent granular cell layer are noticed
- Connective tissue exhibits chronic inflammatory cell infiltrate<sup>10</sup>

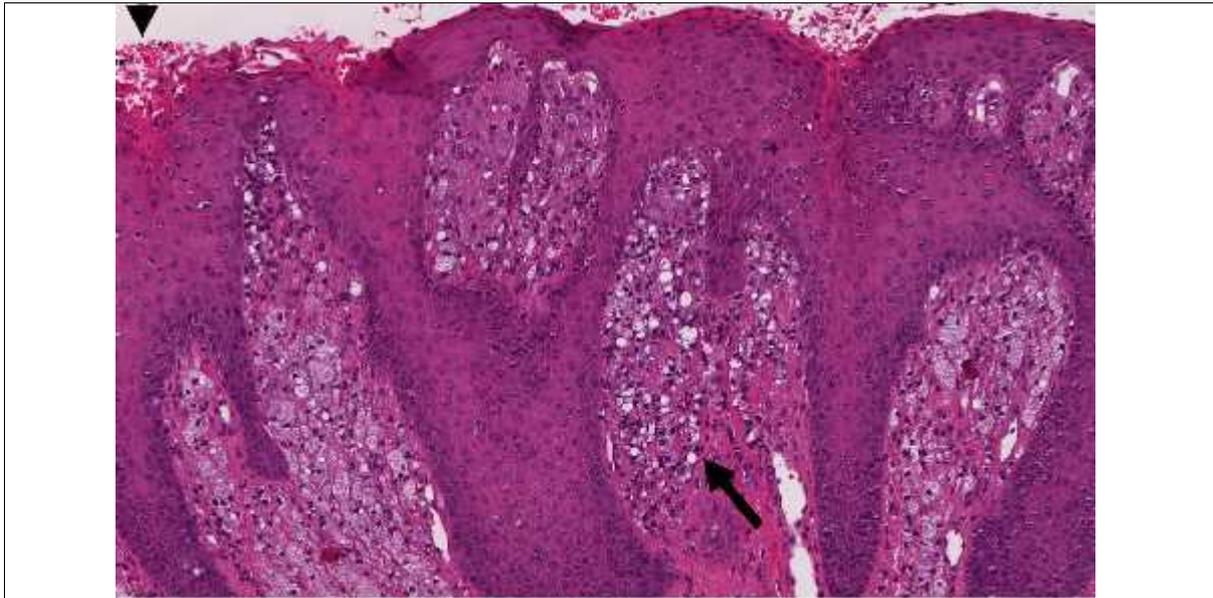
**FIGURE 6: VERRUCOUS VULGARIS SHOWING PROMINENT GRANULAR CELL LAYER**



### VERRUCIFORM XANTHOMA

- Epithelium exhibits hyperkeratosis and acanthosis.
- Clefts between the epithelial projections are filled with parakeratin.
- Uniform rete pegs can be noticed.
- Within the connective tissue Xanthoma cells (lipid laden foam cells) can be noticed which is referred to as histiocytes.<sup>11,12</sup>

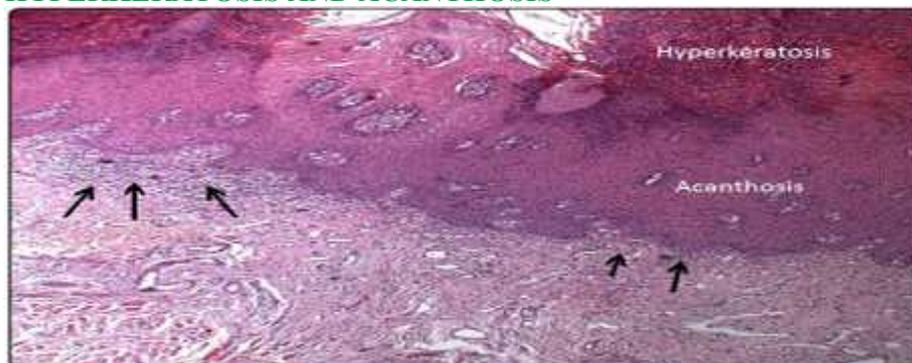
**FIGURE 7: VERRUCIFORM XANTHOMA SHOWING HISTIOCYTES**



#### PROLIFERATIVE VERRUCOUS LEUKOPLAKIA

- Epithelium is hyperplastic in nature and it is hyperkeratotic. It also shows certain dysplastic features.
- Connective tissue exhibits chronic inflammatory cell infiltrate.<sup>13</sup>

#### FIGURE 8: PROLIFERATIVE VERRUCOUS HYPERPLASIA SHOWING HYPERKERATOSIS AND ACANTHOSIS



#### MUCOEPIDERMOID CARCINOMA

- Though it is a salivary gland tumour, it appears in most of the site where SCC and their variants occur.
- Mucoepidermoid carcinoma is a malignant epithelial neoplasm comprising of both mucus producing cells and epidermoid (ie, squamous) cells.
- These 2 cell types are present in various proportions in different tumours. The ratio of these cell types is important in grading the malignancy.
- The higher grade of tumour is predicted by the percentage of squamous cells<sup>14</sup>

#### CONCLUSION

Knowledge about the lesions which are histopathologically similar to Oral squamous cell carcinoma (OSCC) is very important for a dentist in clinical practice. Hence understanding the histological patterns of the lesions leads to proper diagnosis by which treatment can be planned accordingly.

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