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Oral Squamous Cell Carcinoma: Hematoxylin and Eosin Staining

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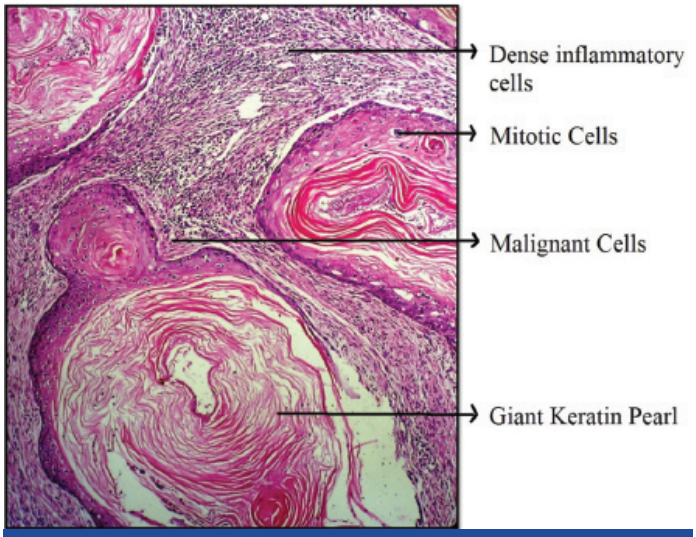
As a known fact, histopathology is the gold standard in the diagnosis of oral squamous cell carcinoma. Although, very ugly in its results, histopathogenesis of malignancy is a very coordinated cellular process and is destructive to the body's homeostasis. Oral squamous cell carcinoma, like other epithelial malignancies is characterized by abnormal cellular division, invasion of malignant epithelial cells in the connective tissue and specifically, aberrant keratinization in the form of keratin pearls [1]. Keratin production by the cells is the symbol of their functional differentiation. Therefore, keratins are known to be one of the most trustworthy epithelial differentiation markers not only in tumour identification but also in cell biology, embryology and pathology [2]. The given image is a photomicrograph of Hematoxylin and Eosin stained section of a well-differentiated oral squamous cell carcinoma at 40 X magnification under light microscope. The image shows enormous keratinization and malignant epithelial cells. The captured section in the image shows a dyskeratotic giant keratin pearl which is unusual in appearance, with malignant epithelial cells along various stages of mitosis [Table/Fig-1]. The amount of keratinization suggests the grade of malignancy and is clearly revealed in the presenting image. The surrounding stroma shows dense infiltrate of inflammatory cells. Dense inflammation also suggests that it is a well-differentiated OSCC [1]; which according to the latest concept given by Essa AM et al., [3], may be recruitment against the dyskeratosis in the section. Essa AM et al., [3] have reported very recently that neutrophil scavenger cells are responsible for the degradation of keratin pearls. Thus, although keratin production is a very common phenomenon in physiology and tumour pathology, its pattern of expression and the internal molecular mechanisms modulated/regulated by keratins in the tissue context are yet to be unraveled and demand further investigation [4].



[Table/Fig-1]: 40x view of H & E stained section showing gaint keratin pearl which denotes dyskeratosis in OSCC

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