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# NON KERATINIZING SQUAMOUS CELL CARCINOMA – A DIAGNOSIS OF CONFUSING NOMENCLATURE

**[1]Dr. Kanupriya Gupta and [2]*Dr. Jatin Gupta**

[1]Senior Research Fellow, Faculty of Dental Sciences, IMS, BHU, Varanasi (U.P.) INDIA-221005.
[2]M.D.S, Oral Medicine and Radiology.

***Corresponding Author: Dr. Jatin Gupta**
M.D.S, Oral Medicine and Radiology.

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**ABSTRACT**
Transitional cell carcinoma also known as non keratinizing carcinoma of sinonasal tract comprises 15-20% of malignant sinonasal carcinoma. Very few reported cases of this type of malignancy have been found. A possible reason could be multiple synonyms like Cylindrical cell carcinoma, Schneiderian carcinoma and Transitional cell carcinoma.

**KEYWORDS-** non keratinizing carcinoma; transitional cell carcinoma; sinonasal carcinoma.

## INTRODUCTION

Nonkeratinizing carcinoma (NKCa) is a rare malignancy of the nose and paranasal sinuses. The incidence of sinonasal malignancy is approximately 3.5 per 100,000 population per year.[1] Of this, 15-20% are nonkeratinizing carcinoma. According to the WHO classification, it has many synonyms including Schneiderian Carcinoma, Transitional Cell Carcinoma, Cylindrical Cell Carcinoma, Ringertz Carcinoma and Respiratory Epithelial Carcinoma.[2]

## DISCUSSION

Nonkeratinizing carcinoma (NKCa) or transitional cell carcinoma of sinonasal cavity is a rare entity. There are very few reports concerning this type of malignancy. To the best of our knowledge, on literature review we found only three cases reported of NKCa; Rashid et al 2011, Prakash Sb 2013, Mondal et al 2015.[3,4,5] Also till date no case with involvement of oral cavity has been reported. According to the WHO classification, it has many synonyms including, Schneiderian carcinoma, cylindrical cell carcinoma, Ringertz carcinoma and respiratory epithelial carcinoma,[6] as the tumor is composed of malignant proliferating cells derived from the sinonasal respiratory (Schneiderian) epithelium.[7] The name cylindrical cell carcinoma was first coined by Ringertz in 1938,[8] and was recommended as the preferred term by Shanmugaratnam in the WHO classification of 1991.[9]

The WHO classification also lists NKCa as a variant of squamous cell carcinoma (SCC). Microscopically, NKCa is composed of papillary fronds thick ribbons and poly stratified masses of cells that give rise quite often to invaginations of the surface epithelium, which at low magnification may mimic inverted papilloma. The tumor cells are commonly cylindrical and have a tendency to form palisade arrangements perpendicular to the underlying basement membrane. The nuclei are atypical and show increased mitotic activity, as well as abnormal mitotic figures. The pattern of invasion is usually expansive, being characterized by pushing margins with focal infiltration of the stroma. The basement membrane remains in most cases conspicuous, despite stromal infiltration, which should not be regarded as carcinoma in situ. Foci of squamous metaplasia, with transition from cylindrical to squamous epithelium, are not uncommon and when extensive these tumors may be indistinguishable from squamous cell carcinoma. This resulted in denominations such as "transitional cell carcinoma" and non-keratinizing squamous cell carcinoma", which may be confusing, the first because the term transitional has also been applied to carcinomas of the lymphoepithelial type, and the second due to the fact that tumors called "non-keratinizing squamous cell carcinoma" also have foci of keratinization.[8]

The designation of cylindrical cell carcinoma as a synonym on the other hand is misleading as it may suggest a relationship to the cylindrical cell papilloma (Oncocytic Schnederian papilloma). The latter is microscopically distinct characterized by surface oncocytic columnar and mucus cells and is unrelated to NKCa.[9]

Robin *et al.* found a difference in the mean age of presentation between men and women in NKCa which was 57.8 years and 70.4 years, respectively.[10] They also found a marked contrast in the distribution of sites among the different types of carcinomas. Squamous cell

carcinomas were seen predominantly in the maxillary antrum, adenocarcinomas were predominantly in the ethmoid while NKCa was more evenly spread. Another observation was that NKCa in men carried a better prognosis than in women where the five-year survival rates were 40% and 13% respectively. Other studies have found that it emerges more favorably with the five year survival rate of 37.5% compared to SCC of 10% and is more sensitive to radiation but has a greater tendency to local recurrence.[11]

Although multimodality therapy does not seem to change the 5-year survival rate, it appears to have improved the local control of tumor. Factors limiting patient survival time are related to local recurrence, nodal metastasis, soft-tissue extension to the palate or nasopharynx, proptosis, and orbital symptoms, as metastases account for approximately 10% of deaths.

## CONCLUSION

The intention of this review is to alert dentists to include NKCa in the differential diagnosis of maxillary sinus tumors with aggressive behavior, which may extend to the oral cavity.

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