CYTOPATHOLOGICALLY DIAGNOSIS OF CARCINOMA: A CASE REPORT

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Abstract

Exfoliative cytology is a reliable method of detecting neoplastic alteration in a variety of organs. Oral cancer is the sixth most frequent malignancy, with India accounting for about a third of the total burden and the second greatest number of cases. For the early detection of oral squamous cell carcinoma, exfoliative cytology has been frequently used (OSCC). Tobacco use, such as smokeless tobacco and betel nut chewing, Excessive alcohol consumption, poor dental hygiene, and long-term viral infections like the human papillomavirus are all risk factors for oral cancer. Exfoliative cytology is a non-invasive diagnostic procedure that can be used to detect premalignant and cancerous lesions in the oral cavity.

Key Words: Cytology, Carcinoma

Case Report:

A 35 year old male patient reported to the OPD of authors' institution with the complaint of swelling in gums of the lower right back tooth region since 2 months. Patient was asymptomatic 2 months back then he noticed swelling and bleeding from the gums. The patient had the habit of placing smokeless tobacco (3-4 packets per day) in his right lower vestibule since 15 years. Extra-oral examination revealed extraoral swelling on the inferior aspect of the right body of mandible. (Fig 1) On inspection, an ulceroproliferative lesion measuring about approximately 5 × 3 cm was seen on the right mandibular back region. The lesion was reddish white in colour. Lesion was extending labial side of third molar from retromolar pad region. (Fig 2) Submandibular lymph node was involved. On palpation, the growth was soft in consistency. Generalized inflamed gingiva and generalized attrition and Ellis class II fracture irt 12 and inflamed uvula were also noticed. Based on clinical findings, a provisional diagnosis of carcinoma of buccal mucosa with differential diagnoses of aggressive inflammatory lesion and traumatic ulcer were made. After routine hematological investigations, a cyto smear was taken. The smear was fixed with cytoprep fix. The H & E stained showed moderately cellular areas. Few abnormal epithelial cells were seen in clumps showing cytological atypia in terms of increased

nuclear cytoplasmic ratio. Few inflammatory cells were also seen. (Fig 3) Papnicolaou stain showed numerous candidal hyphae in abundance. (Fig 4) Final diagnosis of suggestive of cancer were made. Biopsy was advised mandatorily.

Fig.1 Extraoral Photograph showing Swelling on Right angle of mandible

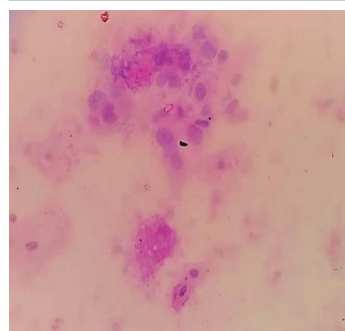**Fig.2 Intraoral Photograph showing ulceroproliferative lesion**

Fig. 3 H & E stained showing few abnormal epithelial cells
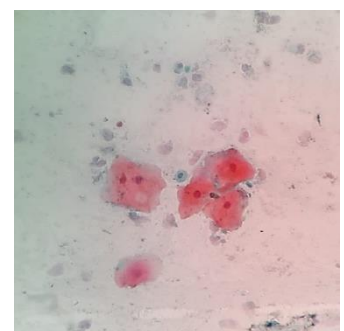

Fig. 4 Papnicolaou stain showing increase cytoplasmic ratio

Discussion:

Oral cancer is the most frequent neoplasm of the head and neck region. Among this the most common is oral OSCC. It's develop in areas where there has been a premalignant lesion.[1] Oral cancer is a far bigger problem in India than it is in the west, with about 70% of cases being advanced. Due to late diagnosis, the possibilities of being cured are extremely low, almost non-existent, with 5-year survival rates remaining around 20%. [2]

Exfoliative cytology is advantageous, because it is a painless, non-invasive, quick, and easy process. It's appropriate for patients who can't have a biopsy due to a systemic illness. It prevents erroneous negative biopsy results and eliminates post-biopsy problems. For diagnostic, follow-up, and research purposes, this process can be performed several times. [1] Exfoliative cytology is frequently used in concert with a well-planned and precisely done biopsy for the identification of oral cancer. Biopsy is often used to confirm the diagnosis.[1]

Exfoliative cytology is based on the physiology of epithelial cells. A normal epithelium is subjected to frequent exfoliation, which results in the loss of cell surface while maintaining the epithelium's thickness. Epithelial cells are held firmly in place under normal circumstances. Exfoliation occurs when cells lose their stable structure due to the presence of benign pathology or the advent of malignant epithelial growth. The loss of cell integrity allows the exfoliated cells to be collected for microscopic analysis. The appropriate cytological smear equipment should be convenient to use in any place, inflict minimal trauma, and contain a sufficient and appropriate number of epithelial cells. It has been shown that a cytobrush is an useful approach for this purpose due to its ease in sampling and it also provides cytologic samples of good quality.[1]

Conclusion:

Finally, in cases where a cytological diagnosis is made, a histological examination should be performed. The procedure isn't meant to be a replacement for tissue biopsy, but it can be a useful addition.

Table-1 The cytologic smear will often be classified into one of five categories by the cytologist.[3]

Class I	Normal	Indicates that only normal cells were observed
Class II	Atypical	Indicates the presence of minor atypia but no evidence of malignant changes
Class III	Indeterminate	This is an in between cytology that separates cancer from non-cancer diagnosis. The cells display wider atypia that may be suggestive of cancer, but they are not clear-cut and may represent precancerous lesions or carcinoma in situ. Biopsy is recommended.
Class IV	Suggestive of cancer	A few cells with malignant characteristics or many cells with borderline characteristics. Biopsy is mandatory. This class is applicable with present case
Class V	Positive for cancer	Cells that is obviously malignant. Biopsy is mandatory

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