SDM
College of
Dental Sciences
& Hospital

"EFFECTIVENESS OF VITAL STAINING USING IODINE IN IDENTIFYING CLEARANCE MARGINS IN ORAL SQUAMOUS CELL CARNINOMA" - A PROSPECTIVE STUDY

by

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Aims:

To assess the effectiveness of dental iodine glycerin in identifying tumor margin intraoperatively.

Objectives:

- To determine the accuracy of vital staining, in intra-operative situations, using standard histopathology methods.
- To assess the presence of epithelial dysplasia beyond the unstained margins using the dental iodine glycerin stain.

Materials and methods:

Prospective study was conducted at the department of OMFS, SDM College of Dental Sciences, Dharwad from December 2012 - October 2014. Study included 50 biopsy proven cases of squamous cell carcinoma.

Methodology-

A. Intraoperatively

1. Examination of lesion. Photograph the lesion
2. Rinse with saline and dry to clean the area.
3. Apply dental iodine glycerin with a cotton bud for 10–20 seconds.
4. Wait for 1–2 min (till the stain is taken up by the normal mucosa).
5. Interpret stain reaction. Photograph the stained lesion

B. The margins stained by the iodine are demarcated using incision placed by no 15 BP blade

C. The lesion was resected with a margin of normal tissue more than 1cm wide around the unstained area.

D. The tumor along with the resected margins was sent for histo-pathological examination.

E. The stained epithelium was examined for dysplastic changes

F. The results obtained were subjected to statistical analysis

Statistical analysis was performed to calculate sensitivity, specificity of the vital stain. The cross tabulation between epithelium of the lightly stained and unstained margins was done and subjected to Chi- square test to calculate the significance.

Results:

The DIG vital stain has a sensitivity of 60% and specificity of 90%. There was definite association between epithelium of lightly stained lesion and epithelium of stained lesion. Out of 50 cases, 24 did not have dysplasia in the stained epithelium. This showed successful staining in 48% of the cases.

Conclusion:

Vital staining with DIG is more specific than sensitive and is rendered ineffective in the presence of keratinized tissues. The stain is also limited to the upper layers of the epithelium. However it is inexpensive, easily available and does not add significantly to