THE ACCURACY OF FROZEN SECTION MICROSCOPY IN ASSESSING MARGINS IN ORAL CARCINOMA RESECTION

by

Dr. PRASHANTH BHAT

Dissertation Submitted To The

Rajiv Gandhi University of Health Sciences, Bangalore, Karnataka

In partial fulfillment

Of the requirements for the degree of

t. 860

MASTER OF DENTAL SURGERY (M.D.S)

In

ORAL AND MAXILLOFACIAL SURGERY

Under The Guidance Of

Dr. GOPALKRISHNAN. K MDS, FDSRCS

Professor & Head

DEPARTMENT OF ORAL AND MAXILLOFACIAL SURGERY

S.D.M COLLEGE OF DENTAL SCIENCES & HOSPITALS

DHARWAD

APRIL 2012

ABSTRACT

Introduction: Squamous cell carcinoma is the most common carcinoma to affect the oral cavity. The best chance of surgical cure in oral cancer is the complete removal of all malignant cells which unfortunately the microscopic extension of it cannot be assessed intraoperatively. To achieve a complete clearance of the tumour the surgeon resects the primary tumour with a clear "Safe Margin" of 1 – 1.5 cm of normal tissue. Frozen section analysis of intraoperative margin assessment has become a valuable guide. This study has been designed to examine the accuracy of the frozen section diagnosis of the surgical clearance margins and compare it with the histological findings.

Material and Method: A prospective study was carried out on patients who reported with biopsy proven oral squamous cell carcinoma from November 2009 to October 2011. After the excision all the frozen and the counterpart permanent sections were reviewed by the pathologist and assessed for concordance. Histological findings were then compared to its stage, grade of differentiation and it's clinical outcome on follow up to define a relationship between margins and recurrence.

Results: A total of 36 patients were identified with biopsy proven squamous cell carcinoma of the oral cavity with a male predilection of 86.11% (31 male patients) and five female patients. A total of one hundred seventy frozen sections were performed on 36 patients. One fifty six of the 170 frozen sections showed concordance with the permanent section of the same tissue sample (five false negative sections and eight false positive), an accuracy of 91.67%. When final margin of

resected surgical specimen were compared with frozen section in 25 patients 4 patients had positive margins in the final report that was not diagnosed by frozen section. A greater local recurrence was found for patients with invasive carcinoma at the margins and of stage III of disease.

Conclusion: Although frozen sections are adequately accurate they at times do not completely eliminate positive margins as we might hope. They are a valuable tool in providing the surgical "safe margin" intraoperatively that aids in a disease free state for the patient, thus benefiting the patient and justifying its cost utility.

Key Words: Squamous cell carcinoma, Frozen Section, Safe Margin, Tumour Resection.