TO ANALYSE THE POSSIBLE INTER-RELATION BETWEEN C-MYC, p53, p21^{WAF1} AND THEIR INFLUENCE ON CELLULAR PROLIFERATION IN ORAL SQUAMOUS CELL CARCINOMA

by

Dr. RANJINI. K.V

Dissertation Submitted to the
Rajiv Gandhi University of Health Sciences, Karnataka, Bangalore

In partial fulfillment
of the requirements for the degree of

MASTER OF DENTAL SURGERY
in

ORAL & MAXILLOFACIAL PATHOLOGY & MICROBIOLOGY

Under the guidance of
Dr. AMSAVARDANI TAYAAR @ PADMINI. S

DEPARTMENT OF ORAL PATHOLOGY
S.D.M. COLLEGE OF DENTAL SCIENCES & HOSPITAL,
DHARWAD

APRIL 2010

ABSTRACT

Background & Objective: The study was aimed to assess quantitatively the expressivity of p53, p21, c-Myc and Ki-67 in Oral Squamous Cell Carcinoma. An attempt to find the relation between these modulators and their influence on proliferative potential in Oral Squamous Cell Carcinoma and Normal mucosa was also made.

Methods: Ten cases of Oral Squamous Cell Carcinoma and five cases of normal oral mucosa were subjected to immnunohistochemical analysis using monoclonal antibodies for p53, p21, c-Myc and Ki-67.

Results: All the studied samples showed expression of p53 and c-Myc. The p21 expression was observed only in 50% of cases. None the regulators correlated significantly with the proliferative quotient nor did the regulators showed significant correlation between them except for p21 and c-Myc in Oral Squamous Cell Carcinoma samples.

Interpretation & Conclusion: The present study suggests that most of the tumours in this population overexpress p53 and c-Myc. There was no statistical significant correlation between the regulators. The values suggest Ki-67 being influenced the most by p53 in normal samples and by c-Myc in OSCC samples. The p21 is influenced positively by p53 and negatively c-Myc in normal samples where as in OSCC it is c-Myc which influences p21. To conclude, p53 and c-Myc play a major role in carcinogenesis and are most often overexpressed. The expression of p21 need not correlate with expression of p53 in OSCC and finally Ki- 67 may not serve as a useful proliferative quotient marker in tumours which predominantly show well differentiated islands.

Keywords: c-Myc; p53; p21; Cell cycle regulators; OSCC.