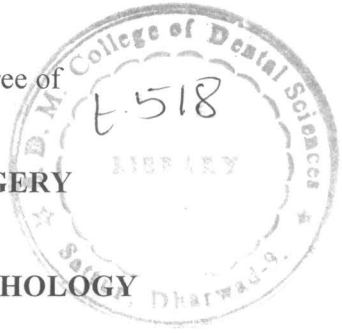
QUANTITATIVE ESTIMATION OF TOTAL PROTEIN, SUGAR, SIALIC ACID IN SALIVA AND EVALUATION OF CANDIDAL STATUS IN PATIENTS WITH ORAL SQUAMOUS CELL CARCINOMA – A CASE CONTROL STUDY

by

Dr. SANJAYA. P. R.

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. KAVERI HALLIKERI

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

APRIL 2008

ABSTRACT

Background & Objective: The aim of the study was to estimate the levels of total proteins, total sugars & sialic acid (free & protein bound) in whole unstimulated saliva and candidal carriage and species recognition in oral squamous cell carcinoma patients and controls.

Methods: Unstimulated whole saliva supernatant was used to determine the levels of total proteins, total sugars and sialic acid (free and protein bound) by using Ultra violet visible Spectrophotometer. Salivary culture technique was performed on Saboraud's dextrose agar media. Germ tube test and cornmeal agar test were performed for identification of candidal species.

Results: Total protein, total sugar and sialic acid (free & protein bound) levels were significantly increased in oral squamous cell carcinoma patients compared to controls. *Candida albicans* were predominant species in all subjects.

Interpretation & Conclusion: The findings of present study suggests that, the elevated levels of free and protein bound salivary sialic acid in oral squamous cell carcinoma patients indicate it's importance as a tumor marker. Elevated levels of total proteins and sugars suggest the possible role of glycoconjugates and altered glycosylation in malignant transformation of oral squamous epithelial cells. Elevated candidal carriage especially *Candida albicans* in oral squamous cell carcinoma patients could be a future tumor marker and this aspect of study has to be addressed and evaluated extensively. Salivary parameters offer scope for detailed future research on their applications in screening, diagnosis and management of cancer.

Keywords: Total Protein, Total Sugar, Sialic Acid (Free and Protein bound), Candida.