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"COMPARATIVE ANALYSIS OF CANDIDA SPECIES IN ORAL SQUAMOUS CELL CARCINOMA PATIENTS AT THE TIME OF DIAGNOSIS AND DURING RADIOTHERAPY"

by

Dr. ARUNEE GUPTA

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 2013

ABSTRACT

Background & Objectives

Oral candidiasis is a common infection in patients receiving radiation for head and neck with a significant increase in colonization and infection rates. Radiation- induced changes favor intraoral colonization of *Candida* species (CS) with *Candida albicans* (CA) being the most frequent as compared to others. There seems to be a shift from CA towards non *Candida albicans Candida* (NCAC) species during the radiation therapy.

The objective of the present study was to qualitatively and quantitatively assess the CS in the saliva of oral squamous cell carcinoma (OSCC) patients at the time of diagnosis and during radiotherapy.

Methods

Unstimulated whole saliva was collected from OSCC patients at the time of diagnosis (Group III), after surgery but before radiotherapy (Group IV), during mid-stage of radiotherapy (Group V) and during end-stage of radiotherapy (group VI). Age and sex matched controls were included without tobacco chewing habit (Group I) and with tobacco chewing habit (Group II) separately.

Saliva samples were transported for microbiological analysis. The frequency of isolation (FOI), colony forming units (CFU) and the various CS identified were subjected to Fishers Exact test, one way Analysis Of Variance (ANOVA) and Post Hoc Test- Scheffe's test appropriately.

Results

A significant increase in the FOI (p=0.00) and CFU (p=0.02) was evident while comparing lesional and post-surgical group and lesional and late radiational group respectively. Proportion of NCAC to CA was higher in group VI followed by III and II.

Conclusion

Candida positive cases significantly increase during post surgical duration while the *Candida* growth although builds in gradually manifests its maximum at the later stages of radiation only. The alterations in the CS can even be brought about by chewing indicating the isolation and growth are due to CS alterations.

Keywords: oral squamous cell carcinoma; radiotherapy; *Candida*.