



**“ASSESSMENT OF PLASMA CORTISOL LEVELS IN PATIENTS WITH  
ORAL SQUAMOUS CELL CARCINOMA AND ITS CORRELATION WITH  
CLINICAL STAGING, HISTOPATHOLOGICAL GRADING AND NODAL  
METASTASIS-A PROSPECTIVE STUDY ”**

BY

**DR. VEERABHADRESHWAR KALYANI**

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

In partial fulfillment  
of the requirements for the degree of

**MASTER OF DENTAL SURGERY (M.D.S.)**

in

**ORAL AND MAXILLOFACIAL SURGERY**

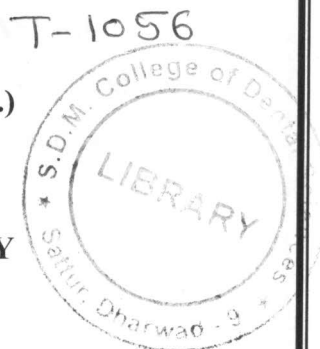
Under the guidance of

**DR. VENKATESH ANEHOSUR**

**PROFESSOR AND HOD**

**DEPARTMENT OF ORAL AND MAXILLOFACIAL SURGERY  
S.D.M. COLLEGE OF DENTAL SCIENCES & HOSPITAL  
DHARWAD**

**2012-2015**



**Aims and Objectives:** To assess the serum cortisol level in patients with oral squamous cell carcinoma and correlate this value with clinical staging of tumour using TNM staging , histopathological grading of the tumour using BRYNE'S (1992) invasive tumour front grading system and nodal metastasis using histopathology.

**Materials and methods:** In this prospective study a total of 25 patients who reported with biopsy proven oral squamous cell carcinoma from dec 2012-nov 2014 were included. Patient's clinical parameters were recorded. Clinical staging was assessed using TNM staging. Blood sample was collected from the patient in the early morning and was sent to department of biochemistry, SDM Medical College to assess the serum cortisol levels. The obtained results of serum cortisol levels was correlated with TNM staging , histopathologic grading of the excised tumour (using BRYNE'S grading system) and nodal metastasis (which was confirmed using histopathology of neck specimen). The data was then analyzed statistically.

**Results:** Patients with oral SCC showed morning serum cortisol levels higher. Cortisol levels increased as the stage of the cancer advanced. There was a statistical significance between TNM & cortisol ( $p=0.0001$ ) but no significant correlation between TMS & PN status with cortisol

**Conclusion:** Patients with advanced stage oral SCC showed significantly higher levels of cortisol than those in an initial stage. This study provides strong evidence that OSSS cells are influenced by neurohormonal mediators and cortisol estimation can be used a biomarker associated with the disease clinical status.