

Salivary Expression of *Sclerotium Rolfsii* Lectin – Binding Mucin-Type Glycoprotein in Human Oral Cancer.

C Shubbada,¹ *, Bale Muruge Swamy²,

1. Lecturer, Department of Microbiology, SDM College of Medical Sciences & Hospital, Dharwad- 580 009, Karnataka, India

2. Professor, Dept. Of Postgraduate Studies in Biochemistry, Karnatak University, Dharwad-580 001, Karnataka, India

E.mail: shubhadarm@yahoo.com

ABSTRACT

Aim: Oral cancer is a major health problem in India associated with significant morbidity and mortality. Due to the absence of truly specific symptoms, the early diagnosis of oral cancer is quite challenging. Aberrant glycosylation of cell surface glycoconjugates is an important feature of malignant changes. Abnormal glycosylation in cancer leads to formation of altered glycoconjugates such as Thomsen – Friedenreich (TF) antigen. In this study we have analyzed saliva for various constituents and used a novel, TF antigen binding fungal lectin (SRL) from *Sclerotium rolfsii*, to detect glycosylation changes in oral squamous cell carcinoma (OSCC). **Materials and Methods:** Unstimulated whole 30 saliva samples each collected from OSCC patients and normal healthy individuals and were analyzed for biochemical constituents and subjected to lectin precipitation assay using SRL. The results were compared between healthy and OSCC subjects. **Results:** Our results showed that levels of salivary constituents like proteins, sugars, hexosamines and sialic acids were significantly high in OSCC patients compared to healthy controls. Lectin precipitation assay with SRL revealed the presence of altered mucin-type glycoproteins in saliva of OSCC patients in significantly higher quantity as compared to healthy individuals. **Conclusion:** A non invasive method like salivary analysis can be developed for the early diagnosis of OSCC and SRL can be developed as a probe to detect and quantify salivary TF antigen in OSCC.

Key words:

OSCC,
TF antigen,
SRL,
saliva,
salivary glycoprotein