ESTIMATION OF INTERLEUKIN-6 IN MODERATE TO SEVERE CHRONIC PERIODONTITIS IN TYPE 2 DIABETIC PATIENTS - A CLINICO-BIOCHEMICAL STUDY

by

Dr. Chetana Banakar

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

PERIODONTICS & IMPLANTOLOGY

Under the guidance of

Dr Leena Shettar

Professor

DEPARTMENT OF PERIODONTICS & IMPLANTOLOGY

S.D.M. COLLEGE OF DENTAL SCIENCES & HOSPITAL

DHARWAD

2008- 2011

ABSTRACT

Background and objectives: In patients with type 2 diabetes there is increased progression of periodontal disease. This study evaluated whether the biochemical changes associated with type 2 diabetes modulates the expression of interleukin-6 [IL-6] in sites with chronic periodontitis.

Material and methods: The study included a total of 48 individuals who were divided into group1- systemically and periodontally healthy subjects, group 2 - systemically healthy subjects with moderate - severe chronic periodontitis and group 3 – type 2 diabetic subjects with moderate - severe chronic periodontitis. Gingival biopsies were harvested from these subjects during extraction and periodontal surgeries. The levels of IL-6 were assessed using ELISA.

Results: The levels of IL-6 were higher in presence of periodontal disease than in absence of inflammation regardless of the systemic status. In subjects with type 2 diabetes, the levels of IL-6 were significantly higher than in systemically healthy subjects with periodontitis.

Conclusion: Within the limits of the study, it was concluded that type 2 diabetes with periodontitis was associated with increased expression of interleukin-6. This over expression may be involved in increased periodontal destruction seen in type 2 diabetics.

Key words: Type 2 diabetes, interleukin-6 and periodontal disease.