

SERUM AND SALIVARY C_{3a} CONCENTRATIONS IN HUMAN PERIODONTITIS

HOSNI, M.M.* ZENAIB, A.S.** OMAIMA, L.G.***

Introduction and R. L. :

Periodontal diseases comprise a group of inflammatory conditions affecting the supporting structures of the teeth. Periodontitis may begin as gingivitis which spread to the underlying tissues. Adult periodontitis (Ap) denote most forms of periodontitis in adults, while the term juvenile periodontitis (JP) describes relatively a rare forms of rapidly progressing periodontitis affecting ten ages and young adults.

The role of complement system in the inflammatory response of the periodontium has been reported by Mergenhagen et al. (1970) The complement components are inactive precursors protein present in serum and extracellular fluids. Complement activation leads to generation of inflammatory mediators which may cause host tissue damage (Attsfrom et al., 1975). Activation of complement can occure by several pathways; the classical, One which is triggered by immune complexes and involves S1, C2, the alternative pathway, tr ggered by polysaccharides, lipopolysaccharides component. The alternative pathway begins by cleavage of C3 component into tow

* Professor in Oral Medicine and Periodontology Dept., Faculty of Oral and Dental Medicine, Cairo University.

** Lecturer in Oral Radiology, Dept., Faculty of Oral and Dental Medicine, Cairo University.

*** Assistant Professor in Ceinical Pathology Dept., Faculty of Medicine, Cairo University.

small fragments C 3a and C 3b (Tsai et al., 1977). C 3a fragment is responsible for chemotaxis of PMNL and phagocytic cells as well as anaphylatoxine release which occurs in early stages of periodontal inflammation (Tollefsen and Saltvedt, 1980).

Several investigators demonstrated the presence of different complement fragments in gingival fluids as C 3a which result from activation of C 3 by alternative pathway in response to dental plaque and their products (Ward 1967, Niekrashi et al., 1984) and (Kristoffersen, 1985).

The purpose of the present investigation is to compare the level of C 3a in serum with that in saliva in cases of chronic gingivitis, marginal periodontitis and juvenile periodontitis.

MATERIALS AND METHODS

Material consists of :

1 - Ten patients with history of chronic gingivitis between the age of 22-35 years were selected. These individuals had nearly complete dentition, with obvious signs of gingival inflammation and periodontal disease index scores 2 with no loss of attachment.

2 - Ten male patients with severe generalized periodontitis between the age of 28-40 years were selected. These individuals exhibited advanced loss of gingival tissue attachment and generalized alveolar bone loss. Average severity scores were separately calculated on the basis of recording from six teeth in each subject following the method described by Ramfjord, 1967; Radiographs were available for all patients and the amount for bone loss was determined.