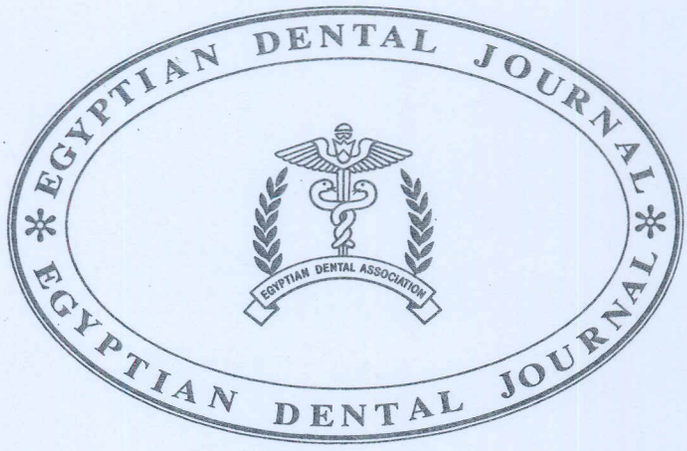

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IMMUNOPHENOTYPING AS A PROGNOSTIC INDICATOR IN JUVENILE PERIODONTITIS. A FLOW CYTOMETRIC ANALYSIS

Azza M. Ezz El Arab[*]; *Hala K. Abdel Gaber*[*] *and Sherif N. Amin*[**]

Abstract :

Peripheral blood T-lymphocyte subsets were determined by 2 colour flow cytometry in 15 patients with juvenile periodontitis as well as in age matched controls. Gingival biopsies were obtaied at the time of periodontal surgery and cells extracted from gingival tissues were analyzed by flow cytometry. Clinical parameters for each patient were recorded including gingival index, pocket depth and attachment level. The mean $CD4^+/CD8^+$ ratio in peripheral blood for periodontally healthy and juvenile periodontitis patients did not reveal any significant difference. Analysis of cells extracted from gingival tissue of juvenile periodontitis patients showed reduced $CD4^+/CD8^+$ ratios relative to their controls, which was statistically significant. An interesting finding was reported where $CD4^+8^+$ double positive (DP) cells increased in both peripheral blood and gingival tissues of juvenile periodontitis patients as compared to controls. The correlation between gingival $CD4^+/CD8^+$ ratio and the clinical parameters of juvenile periodontitis was estimated where the only significant inverse correlation was found between $CD4^+/CD8^+$ ratio and attachment levels.

REVIEW OF LITERATURE:

Early onset periodontitis (EOP) is a severe form of periodontitis that affects young individuals which is highly destructive to the periodontal tissue. Subcategories have been described for EOP including; prepubertal periodontitis (PP), juvenile periodontitis (JP) and rapidly progressive periodontitis (RPP)[1]. The etiology of JP is still not completely clear. The disease always involves an element of infection particularly Actinobacillus actinomycetemcomitans (Aa)[2].However,the association of Aa with JP lesions has not been a universal finding[3]. In this early form of periodontitis, tissue destruction is not commensurate with the amount of plaque[4], thus suggesting that some forms of increased host susceptibility may be involved in their etiology. Defects in neutrophils function as chemotaxis and phagocytosis have been implicated in JP[5].

Several studies have looked for association between HLA phenotype and EOP. Positive association was reported between DR4 antigens and different forms of EOP[6]. HLA-DR antigens have been shown to regulate the development of $OKT4^+$ cells (helper cells) in the human thymus[7].

Local T helper cells stimulate granulocytes and macrophages through production of cytokines as IFNγ. T helper cells are also engaged in the final differentiation of B-cells and plasma cells. Important cytokines in this regard are IL-5 and IL-6. Cytokines from CD8 lymphocytes mediate important immunologic

* Lecturer, Oral Medicine and Periodontology Dept., Faculty of Oral and Dental Medicine, Cairo University.
** Lecturer, Chemical and Clinical Pathology Dept., Faculty of Medicine, Cairo University.