

Analysis of Formyl Peptide Receptor 1 Protein Value as an Indicator of Neutrophil Chemotaxis Dysfunction in Aggressive Periodontitis

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Abstract : The decrease of neutrophil chemotaxis function may cause increased susceptibility to aggressive periodontitis (AP). Neutrophil chemotaxis is affected by formyl peptide receptor 1 (FPR1), which when activated will respond to bacterial chemotactic peptide formyl methionyl leusyl phenylalanine (FMLP). FPR1 protein value is decreased in response to a wide number of inflammatory stimuli in AP patients. This study was aimed to assess the alteration of FPR1 protein value in AP patients and if FPR1 protein value could be used as an indicator of neutrophil chemotaxis dysfunction in AP. This is a case control study with 20 AP patients and 20 control subjects. Three milliliters of peripheral blood were drawn and analyzed for FPR1 protein value with ELISA. The data were statistically analyzed with Mann-Whitney test ($p > 0,05$). Results showed that the mean value of FPR1 protein value in AP group is 0,353 pg/mL (0,11 to 1,18 pg/mL) and the mean value of FPR1 protein value in control group is 0,296 pg/mL (0,05 to 0,88 pg/mL). P value 0,787 $> 0,05$ suggested that there is no significant difference of FPR1 protein value in both groups. The present study suggests that FPR1 protein value has no significance alteration in AP patients and could not be used as an indicator of neutrophil chemotaxis dysfunction.

Keywords : aggressive periodontitis, chemotaxis dysfunction, FPR1 protein value, neutrophil

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