CD38 Expression in Neutrophils From Patients With Localized Aggressive Periodontitis

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Background: Localized aggressive periodontitis (LAgP) is qssociated with neutrophil dysfunction including decreased chemotaxis and reduced calcium entry. It has been suggested that CD38 is involved in chemotaxis. Little is known, however, about the relationship of CD38 and LAgP patients. In this study, we focused on the level of CD38 expression between LAgP and normal subjects and examined the involvement of CD38 in abnormal neutrophil chemotaxis of LAgP patients.
Methods: Neutrophils from 12 normal subjects and 12 LAgP patients were isolated from peripheral venous blood. Membrane associated proteins were extracted from cells with or without N-formylmethionine leucyl-phenylalanine (fMLP) stimulation. CD38 expression was measured using Western blotting. Band density was measured using an imaging densitometer.
Results: There was no statistical difference between normal subjects and LAgP patients in resting CD38 expression (basal level). However, the fMLP-stimulated neutrophils exhibited a significant decrease of CD38 expression in LAgP subjects compared to normal subjects. The decrease of CD38 was positively correlated with the defect in chemotactic migration to fMLP.
Conclusion: These data suggest that the lower expression of CD38 in neutrophils may be related to altered neutrophil function in LAgP. *J PeriodontoI2005;76:J960-J965.*

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