Thesis Title Differentiation of Monocytes During Inflammation: an *in vitro* study on expression of surface markers

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ABSTRACT

Various surface markers of monocytes and differentiating macrophages (*in vitro*) of both healthy volunteers and adult periodontitis patients with localized periodontal abscess formation were investigated by flow cytometry. In healthy volunteers, a relative expression of the markers on monocytes/macrophages differed dramatically during 7 days of culture. In the presence of lymphocytes, the differentiating macrophages did not reach the same state of differentiation as those macrophages cultured without lymphocytes. Macrophages co-cultured with lymphocytes showed decreased expression of CD14, CD11c and CD71. This suggests that one of the mechanisms which lymphocytes can modulate the immune system is via regulation of monocytes/macrophages differentiation. In periodontitis, differentiating macrophages expressed adhesion proteins (CD11a, CD54), differentiation antigens (CD11c, CD36 and CD71) and HLA-DR in a relatively higher quantity than in the healthy group. Results from this study may explain the responsiveness of monocytes in periodontitis patients during exposure to microorganism and/or its products.