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Alterations in neutrophil surface expression of L-selectin (CD62L) and soluble L-selectin (sL-selectin) in hemodialysis patients: relation to HCV

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High levels of L-selectin (CD62L) are a strong indicator of endothelial dysfunction, and atherosclerosis. Atherosclerosis is the leading cause of mortality and morbidity in hemodialysis (HD) patients. Whether HCV infection (highly prevalent in HD patients and also associated with alterations in adhesion molecules) would affect the leukocytic expression and/or the soluble form of L-selectin in hemodialysis patients is unknown. Seventy-two HD patients, HCV-positive (n=48) and HCV-negative (n=24) and 10 normal control were studied. Blood samples were obtained just prior to the start of the dialysis session (predialysis) and at the end of 15 min. of dialysis (intradialysis). The following tests were performed on all patients: HCV-RNA by RT-nested PCR, quantitative determination of sL-selectin by ELISA and neutrophil surface expression of L-selectin (CD62L) by flowcytometry. Both CD62L and sL-selectin were found to be significantly higher in HD patients as compared to normal controls irrespective to HCV. Fifteen minutes after start of the dialysis session both CD62L and absolute neutrophil count decreased significantly [CD62L, $p < 0.0001$ (HCV-positive), $p= 0.03$ in (HCV-negative), [neutrophil count, $p < 0.0001$ each], while sL-selectin showed a significant increase [$p = 0.004$ (HCV-positive), $p = 0.006$ (HCV-negative)]. These changes were unrelated to HCV status. A significant increase in CD62L in HCV-positive patients compared to HCV-negative ones in both pre and intradialysis samples was noted ($p = 0.007$, $p = 0.02$ respectively). However, no difference was observed in either sL-selectin or absolute neutrophil count between the two groups in the two tested time points. In conclusions, the increased levels of neutrophil-expressed and soluble forms of L-selectin in HD patients, and the intradialysis increase in sL-selectin and decrease in CD62L and neutrophil count are unrelated to HCV viremia. The association between HCV positivity and neutrophil expression of pre andintradialysis L-selectin point to a possible role of HCV that needs further studies.