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MEETING ABSTRACT Open Access

VEG F as a biological marker of the venous disease-associated ulcers natural history in the elderly: preliminary data

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Background

Vascular Endothelial Growth Factor A164/5 (VEGF A164/5) expression correlated both temporally and spatially with the proliferation of new blood vessels that differ from normal blood vessels with respect to organization, structure, and function [1]. The aim of our study was to measure plasma and wound fluid VEGF levels to investigate the role of this angiogenic factor as a possible marker of leg ulcers healing in patients with chronic venous disease.

Materials and methods

Design: Analysis of a prospective collected database. Setting: Vascular Surgery Unit in an University Hospital. Patients: A total of 37 patients aged >65. Study Group: 17 patients affected by venous leg ulcers (CEAP 6; at least from 4 weeks and not over 24 months) ; Control Group: 20 persons with no clinical evidence of venous or arterial disease of the lower limb. Data collection: main demographic and laboratory parameters were collected for all patients. Study Group: plasma and wound fluid sample for VEGF A164/5 dosage (ELISA assay), together with wound dimension recording were performed at specific time-points: baseline measurement, at inclusion (T0); 4 weeks after inclusion (T1) and 8 weeks after inclusion (T2). Control Group: a single plasma sample was performed at T0.

Results

No differences in main demographic and laboratory parameters (p=NS for all measurements). At baseline the median plasma VEGF levels (pg/ml) were significantly higher in patients (98 pg/ml) than controls (54 pg/ml): median difference vs. controls (95% CI) 35 (9–63). No significance was found in patients between plasma VEGF levels and ulcer size (p=0.179 at T0; p=0.212 at T1; p=0.862 at T2). VEGF concentration in wound fluid showed a statistically significant correlation with the wound area (cm^2) (p=0.019 at T1; p=0.028 at T2).

Conclusions

Our results show that the VEGF165 level detected in wound fluid can be of prognostic value for differentiating an effective or impaired wound healing response while the difference observed in VEGF plasma levels need further investigations.

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