

## **Apoptosis and related Proteins in the Skin of Patients with Chronic Venous Ulcerations**

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AIM: It is well established that chronic venous ulcers of the lower extremity are due to venous and capillary hypertension. The present study was undertaken to elucidate whether impaired macro- and microcirculation has an influence on the apoptotic index and on the expression of apoptosis related genes e.g. caspases (Casp), Bcl-2, FAS-L, FAS of epidermal and dermal cells.

MATERIALS AND METHODS: Skin biopsies were taken from 10 patients with chronic relapsing venous ulcers from 1) the upper leg, 2) the proximal lower leg transition area of visible skin changes- and 3) the ulcer edge at the inner ankle. Specimens were fixed in formalin, embedded in paraffin and subjected to immunohistochemistry employing antibodies against Casp-1, -3, -6, and 9, Fas, and Fas-L. Apoptotic index was investigated by TUNEL method.

Results: All skin biopsies did not show any differences when labelling for apoptotic index. In healthy skin casp-3 immunoreactivity was restricted to basal cells of the epidermis. In samples of the intermediate zone, casp3 was strongly expressed in basal cells and a weaker reaction was seen in the other epidermal layers except the stratum lucidum and corneum. In samples from the edge of the ulceration, the stratum basale, the stratum spinosum and the stratum granulosum were strongly positive with the c-casp-3 antibody.