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Comparative analysis of plant-derived stem cell growth factor versus human derived stem cell growth factor in skin rejuvenation

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The important role of growth factors in wound healing is well known. Due to biochemical similarities in wound formation and aging the use of growth factors in personal care products to fight the signs of aging is promising. But not only growth factors derived from human stem cells, but also plant derived growth factors found their way into skin care products. *In vivo* as well as *in vitro* studies demonstrated a certain potential of both alternatives.

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Effect of ischemia preconditioning and leech therapy on cutaneous pedicle flaps subjected to prolonged ischemia in a mouse model

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We sought to determine the effect of Ischemic Preconditioning (IPC) and hirudotherapy (leech therapy) on cutaneous pedicle flaps after they underwent prolonged ischemia (global ischemia) in a mouse model. Twenty cutaneous pedicle flaps were elevated in 20 mice, and the animals were randomized into four groups: sham, control, IPC and leech (5 flaps in each group). Except in the sham group, all flaps were subjected to global ischemia for 5 h via pedicle clamping. The control group did not receive any treatment before or after global ischemia. In the IPC group, global ischemia was preceded by three 10-min episodes of ischemia, each followed by 10 min of reperfusion. In the leech therapy group, after global ischemia, hirudotherapy was performed. Flap survival area and histopathological changes were evaluated on the 10th day after surgery. Flap survival areas were significantly higher in both the IPC and leech groups than in the control group and were significantly higher in the leech group than in the IPC group ($p < 0.05$). In conclusion IPC and hirudotherapy had definite effects on the survival area of cutaneous pedicle flaps that underwent prolonged ischemia in a mouse model.

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