

DOES ACUPUNCTURE CAUSE CHANGES IN IL-6 AMOUNTS AT THE PARTIAL-THICKNESS BURN WOUND? AN EXPERIMENTAL STUDY IN THE RAT MODEL (P117)

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Background: Burn wound is one of the main sources for inflammatory response, inflammatory pain and distress in burn trauma. Interleukin-6 (IL-6) is one of the earliest and important components of systemic and local inflammatory response, it increases at the burn-sites in the early phase of burn trauma and it mediates the inflammatory-pain. Acupuncture whose effects are explained with viscerocutaneous, cutaneous-visceral, cutaneous-muscular, and viscerocutaneous reflexes decreases 'pain and distress scores' in the experimental deep-partial thickness burn model. So acupuncture may also have some effects on IL-6 amounts at the burn-wounds. We aimed to evaluate the effects of acupuncture on the amounts of IL-6 in an experimental deep partial-thickness burn model.

Methods: Thirty-two male Sprague-Dawley rats were divided into four groups: B1 group (burns/observation during 1h after injury); BA1 group (burns/acupuncture/observation during 1h after injury); B7 group (burns/observation during 7 days after injury); and BA7 group (burns/acupuncture/observation during 7 days after injury). Partial thickness contact-burns were induced on the right lower quadrants of dorsa (burn size: approximately 30% of the total body surface area). Animals in B1 group and BA1 group were sacrificed 1 hour after burn induction. Animals in B7 group and BA7 group were sacrificed 7 days after burn-induction. In B7 group and BA7 group wound-dressings were changed on every alternate-day. In BA1 and BA7 group, acupuncture points around the burn wounds and the acupuncture points on the related dermatoms were used. Acupuncture was repeated in every wound-dressing change for BA7 group. Before scarification, burn wounds were excised for immunohistochemical staining. Amounts of IL-6 were evaluated semiquantitatively (median± SEM) ($p < 0.05$).

Results: Our data indicated that B7 group had the highest amount of IL-6 (1.5 ± 0.19) in the burn wounds ($p < 0.05$). B1 group, BA1 group and BA7 group had similar amounts of IL-6 (1.0 ± 0.13 , 0.5 ± 0.19 and 1.0 ± 0.18 respectively) ($p > 0.05$).

Conclusions: According to our results, acupuncture application seems to reduce IL-6 amounts in the experimental partial-thickness burn wound in the initial 7 days. Our findings may refer to the role of acupuncture in the modulation of burn-injury pain and systemic/local inflammatory response to burn trauma. Further studies are required.