

Anti-inflammatory Acupuncture Protects From Adhesions

Published by [HealthCMi](#) on 10 January 2015



Acupuncture exerts post-operative anti-inflammatory responses thereby preventing abdominal adhesions. Published in the *Journal of Surgical Research*, investigators have discovered a major biological mechanism that may be responsible for these beneficial effects. The research team concludes, “EA (electroacupuncture) ST36 might reduce the postoperative local inflammatory response, attenuate the angiogenesis and alleviate the adhesion formation partly via activating the cholinergic anti-inflammatory mechanism.”

The team’s findings build on earlier research proving that electroacupuncture prevents post-operative abdominal adhesions. In looking for clues as to how acupuncture exerts its anti-inflammatory effects, they discovered that electroacupuncture at acupoint ST36 “reduced TNF- α and VEGF levels in adhesive tissue homogenates 7 days after surgery...” Even

more interesting, only true acupuncture points used in the study exhibited these effects. Electroacupuncture at “non-channel acupoints...had no suppressive effects on TNF- α and VEGF levels. TNF (Tumor Necrosis Factor) is a cytokine that is involved in various biological functions including septic shock and wasting syndrome. VEGF (Vascular Endothelial Growth Factor) is a signal protein produced by cells that engage vasculogenesis and angiogenesis.

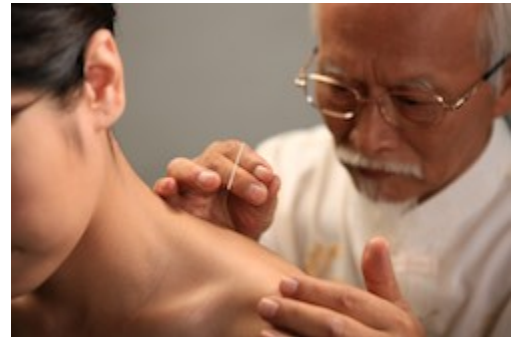
Histopathological and macroscopic evaluations confirm that electroacupuncture at ST36 reduces post-operative adhesion formation. In addition, the researchers note that electroacupuncture at ST36 “significantly decreased angiogenesis evidenced by reduced CD31 positive microvessel density (MVD) in adhesive tissue.” CD31 (Cluster of Differentiation) is a protein that regulates neutrophil removal and expresses in vascular tumors, sarcomas and carcinomas.

Related research confirms the anti-inflammatory effects of acupuncture. Another recent study reveals that acupuncture at acupoints GV20 and GB7 regulates the cascade of endogenous inflammatory chemicals released after a stroke. These acupuncture points prevent inflammation by inhibiting IL-1beta in the brain tissue region of a hematoma. IL-1beta is a pro-inflammatory cytokine, a cell-signaling protein molecule used in intercellular communication.

Scalp acupuncture causes a rapid decrease of IL-6 (Interleukin-6), another cytokine involved in the inflammatory response. Left unchecked, IL-6's pro-inflammatory effects are pathological. IL-6 mediates fevers, crosses the blood-brain barrier and is found in high levels in patients with metastatic cancer.

The researchers note that acupuncture at GV20 and Taiyang has an "inhibitory effect on the immune-inflammatory reaction mediated by TNF-(alpha) expression...." Additionally, acupuncture at GV20 and GB7 "promoted heat shock protein 70 (HSP70) mRNA expression in brain tissue...." HSP70 helps cells fold proteins and have the ability to protect cells from stress. Other scalp acupuncture research shows "improved mitochondrial energy metabolism in (the) brain...."

Neuro-electrophysiology scalp acupuncture studies show that acupuncture at GV20 and Taiyang improves "coordination and compensation functions among cortical functional areas" in ICH patients. Scalp acupuncture has also been shown to beneficially affect the electrical activity of pain reaction neurons. Also noted, GV20 and GB7 promote the expression of glial cell neurotrophic factor GDNF, a protein that promotes the survival of neurons.



References:

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