Acupuncture stimulationof ST-36 (Zusanli) significantly mitigates acute lung injury in lipopolysaccharide-stimulated rats.

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Abstract

Background: We sought to investigate the potential therapeutic effects of acupuncture stimulation of ST-36 (Zusanli) on endotoxemia-induced acute lung injury in lipopolysaccharide (LPS)-stimulated rats. Methods: Sixty rats were randomized into six groups (n = 10): (i) lipopolysaccharide (LPS) control group, (ii) normal saline (N/S) control group, (iii) LPS plus ST-36 group, (iv) N/S plus ST-36 group, (v) LPS plus sham point (Sham) group, and (vi) N/S plus Sham group. Manual acupuncture stimulation of ST-36 (designated as 'ST-36') or a 'non-acupoint' (designated as 'Sham') was performed in lightly immobilized rats for 30 min. Then, LPS injection was employed to induce sepsis. Rats were killed at 6 h after LPS injection and lung injury, nitric oxide (NO) biosynthesis and inducible NO synthase (iNOS) expression were assayed. Results: Significant lung injury, pulmonary iNOS expression and systemic and pulmonary NO biosynthesis were noted in the LPS groups. Rats in the LPS plus Sham group had lung injury, pulmonary iNOS expression, systemic and pulmonary NO biosynthesis similar to those observed in the LPS group. However, the degree of lung injury, pulmonary iNOS expression and pulmonary NO biosynthesis, but not systemic NO biosynthesis, were significantly attenuated in the LPS plus ST-36 group as compared with those in both the LPS group and the LPS plus Sham group. Conclusion: Acupuncture stimulation of ST-36 may be effective as a prophylaxis measure against sepsis. However, results from this study do not support the use of acupuncture for the treatment of sepsis.