

The Role of Acupuncture in Asthma

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Asthma and Complementary and Alternative Medicine

Bronchial asthma is a major health problem characterized by a chronic inflammatory disorder of the airways, in which many cells and cellular elements play a role. The global prevalence, morbidity, mortality, and economic burden associated with asthma have increased since the 1970s, in particular in children.¹ About 300 million people worldwide have asthma, and it has been estimated that a further 100 million will be affected by 2025.² Although many clinical trials³ have indicated that a good control of bronchial asthma can be achieved by drug treatment in most patients, this is not the situation in most audits of large groups in real life outside trials. Current asthma therapy is directed toward reducing airway inflammation, attenuating bronchial hyperreactivity and improving bronchodilatation effect in addition to hyposensitization and environmental adjustment. The lack of satisfactory success of current asthma therapy has resulted in an increasing number of patients seeking complementary and alternative medicine approaches to deal with their asthma. As a consequence, the search for effective low-risk, non-drug strategies that provide a valuable adjunctive or alternative treatment in asthma management is clinically attractive and relevant. There is much interest in complementary and alternative medicine, and its use in the management and treatment of asthma is growing at a significant rate.⁴

Acupuncture Therapy

Acupuncture is an integral part of a 4,000-year-old philosophy of medicine that is known as traditional Chinese medicine (TCM). Acupuncture is a therapy that involves the stimulation of defined points on the

body with the use of needles for therapeutic and preventive purposes. Other methods of stimulation of acupuncture points include pressure (acupressure), electric, and, more recently, the use of laser. The basic idea underlying acupuncture therapy is that disorders related to the flow of *Qi*, thought to be the energetic life force moving through the body along a network of channels or pathways called meridians in the concept of TCM, can be prevented or treated by stimulating the relevant points on the body surface. By and large, these channels or pathways are modulated in such a way as to stimulate, when there is a deficiency or lack of energy, or reduce, when excess energy is present.

Acupuncture and Asthma: Evidence of Efficacy?

Treatment involving acupuncture is commonly used in routine practice by qualified practitioners of TCM in a variety of clinical settings, yet, despite thousands of years of use, there is no robust evidence base to confirm its effectiveness in the treatment of asthma.⁵⁻⁸ Practical and logistic difficulties exist in the design and execution of the randomized controlled clinical studies required to provide the highest-grade evidence for acupuncture therapy in asthma. There are numerous potential pitfalls in the studies investigating complex interventions such as acupuncture, which requires significant interaction between patient and practitioner. There are obvious difficulties with selecting study subjects and suitable controls, blinding participants and researchers to any intervention received, and in ensuring standardization of acupuncture therapy. While it is frequently clinically acceptable to standardize medication dosage, given route and timing, it is not normal to do so for acupuncture, in which the number and representative acupuncture points and sequence of

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acupuncture, the techniques for stimulation (acupressure, electric, laser or needle), the presence of *De Qi*, a sensation felt when an acupuncturist reaches the level of *Qi* in the body, and the response of the subjects affect the intervention provided during any intervention between patient and practitioner.

Acupuncture in Asthma

In this issue of the *Journal of the Chinese Medical Association*, Chu et al⁹ present the results of a prospective controlled crossover study investigating the acute bronchodilatation effect of acupuncture for patients with persistent but suboptimally controlled asthma. Sixteen subjects, excluding 2 subjects who failed to complete the study, were randomly allocated to 2 groups receiving either real acupuncture or sham acupuncture in a blind manner. The acupuncture therapy was crossed over after a washout period of 2 to 3 days. The results indicated no significant differences in forced expiratory volume in 1 second (FEV₁), expressed as actual value and percent of predicted value (% pred.), after sham acupuncture. In contrast, the mean values of FEV₁ increased 0.15 L and 11.6% pred. after real acupuncture, and the changes in FEV₁ showed statistical significance. Strictly speaking, this was a negative study in that no clinically significant differences in the actual value and % pred. of FEV₁ after real acupuncture were observed. It has been recommended that a percentage increase in FEV₁ ≥ 15% accompanied by an absolute response ≥ 200 mL can be considered significant bronchodilatation effect.¹⁰ Since the number of acupuncture points and the sites of acupuncture between real and sham acupuncture were quite different, and 12 of 16 patients had received acupuncture as alternative treatment for their acute and chronic disorders including asthma previously, it is uncertain if the changes in FEV₁ after real acupuncture were due to specific physiologic effects or nonspecific physiologic effects and/or nonspecific psychological effects. In addition, fluctuation of airway hyperresponsiveness in the studied subjects cannot be excluded since the baseline data of FEV₁ before inhaled bronchodilator test and acupuncture therapy varied widely (1.32 ± 0.30 L vs. 1.52 ± 0.45 L). The increase in mean FEV₁ expressed as actual value (0.2 L) was higher than that induced by real acupuncture. However, modest bronchodilatation effect exerted by acupuncture therapy cannot be ignored or overlooked.

Acupuncture and Asthma: Fact or Fiction

Was the bronchodilatation effect a result of acupuncture therapy or was it due to other nonspecific mechanisms? Should we discourage our asthma patients from being treated by acupuncture? Clearly, an increasing number of patients seek the care of acupuncturists for a variety of illnesses, including asthma. This report poses more questions than it answers, but does again raise the possibility that acupuncture may have a useful role to play in the management of asthma—which patients may be helped, which techniques are most effective, and by what mechanisms of action still remain to be clarified. Further studies are needed to confirm the reliability and generalizability of these findings, which potentially have considerable significance for asthma management, and to investigate the mechanisms of the apparent effectiveness of acupuncture. Until then, we cannot recommend acupuncture for the treatment of asthma.

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