



Acupuncture's role in asthma

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RESUMEN

El asma es un síndrome inflamatorio crónico de las vías aéreas, en el que intervienen diferentes células y sus mediadores que originan daño y se expresan clínicamente por síntomas respiratorios recurrentes. La terapia actual del asma se enfoca en la reducción de la inflamación de la vía aérea, que atenúa la hiperactividad bronquial a largo plazo y el tratamiento de rescate con broncodilatadores (cuando se requiere). Desafortunadamente, la falta de éxito de las terapias actuales del asma ha incrementado el número de pacientes que buscan aproximaciones en la medicina complementaria y alternativa para tratar su asma. Aún falta evidencia científica para establecer que la medicina alternativa sea más efectiva que el placebo en el asma. Sin embargo, esto no implica que sea inefectiva, pues quizá se necesitan más ensayos clínicos multicéntricos, con todo el rigor metodológico que implican, para establecer conclusiones finales de la eficacia e inocuidad de la medicina complementaria. Por tanto, hasta que estén disponibles tales resultados, es mejor permanecer escépticos y no recomendar la acupuntura para el tratamiento del asma.

Palabras clave: acupuntura, asma, medicina complementaria.

ABSTRACT

Asthma is a chronic inflammatory syndrome of airways, in which different cells and their mediators play a role originating damage clinically expressed by recurrent respiratory symptoms. Current therapy of asthma is focused to reduce airway inflammation, diminishing long-term bronchial hyperactivity and rescue treatment (when required). Unfortunately, the failure of current therapies of asthma has increased the number of patients searching for approximations in complementary and alternative medicine. Scientific evidence is still scarce for establishing that alternative medicine is more effective than placebo in asthma. However, this does not mean that it is ineffective, maybe more multicentric clinical assays are needed, with methodological rigor, to establish final conclusions of efficacy and safety of complementary medicine. Thus, until such results are available, it is better to be skeptical and not to recommend acupuncture for asthma treatment.

Key words: acupuncture, asthma, complementary medicine.

Guidelines for asthma diagnosis and treatment have been broadly spread by the GINA initiative (Global Initiative for Asthma) and the NAEPP¹ program (National Asthma Education and Prevention Program), however, 500,000 hospitalizations have been reported, 2 million emergency room visits and 5,000 deaths occur each year within the United States in asthma patients,² besides identifying significant differences in asthma

prevalence, the use of health services and mortality within different ethnic groups.

Poor understanding from the patient in asthma control, lack of treatment compliance regimes, cultural beliefs and unequal access to health services, these besides the lack of follow up from the treating doctor and an inadequate compliance to asthma guidelines all contribute to a less than optimum chronic asthma control. Currently we should comply the guidelines for treating

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asthma and avoid routine recommendations under any complimentary or alternative regimen.

ASTHMA AND ALTERNATIVE AND COMPLEMENTARY MEDICINE

Asthma is an important health problem that's characterized by a respiratory tract chronic inflammatory disorder and where a large amount of cells and cellular elements are implicated. Global prevalence, morbidity, mortality and economic factors associated to asthma have grown since the 1970's, particularly in children.³ Nearly 300 million people worldwide have asthma and its estimated that by the year 2025 more than 100 million will be affected by this disease.⁴ However, several clinical trials⁵ have spotted out that a pharmacological treatment can control asthma quite well in most patients. This not being the case, in real life, when reviews are made in large groups. Current asthma therapy consists in reduction of the respiratory tract inflammation in order to attenuate bronchial hyperactivity and improve the bronchial dilation effect besides hyposensitization and climate adjustments. The lack of success in current therapies has resulted in a high number of patients that look for results in alternative and complimentary medicine to help treat their illness. As a direct consequence, a search of low risk effectiveness without the use of drugs in therapy that give adjacent valuable or alternative treatment have become of clinical relevance and attractive. There is great interest in alternative and complementary medicine, and its participation in treating asthma grows at a significant rate.⁶

ACUPUNCTURE THERAPY

Acupuncture is an integral part of traditional Chinese medicine philosophy, 4,000 years old. This treatment is defined by the stimulation of very defined points in the body with needles, this done with therapeutic and preventive proposes. Other acupuncture stimulation methods include: pressure (acupressure), electric current and recently laser treatment. The basic idea supporting acupuncture therapy is that diseases related to the Qi flux (energy flux throughout the body through a network of channels called "meridians" according to traditional

Chinese medicine) can be treated with the stimulation of important corporal surface points. Throughout these channels these points are modulated or stimulated whenever there's an energy deficiency or reduced when having an excess of energy.

ACUPUNCTURE AND ASTHMA: EVIDENCE AND EFFICACY

Treatments where acupuncture is practiced are routinely done so by qualified personnel and trained in traditional Chinese medicine in different clinical areas. However despite thousands of years of use, there is still no evidence in its effectiveness in asthma treatment.⁷⁻¹⁰ There are several practical and logistic difficulties in the execution of controlled and random clinical trials. Trials are needed in order to provide a high degree of evidence for acupuncture as therapy in asthma control. Potential errors exist in studies that evaluate complex acupuncture interventions, which require a significant interaction between the practitioner and the patient. Therefore obvious difficulties are present in selecting adequate subjects and control groups, the blinding of patients and researchers in any intervention and the standardization of acupuncture as therapy. It is not common to establish standardization doses in this type of medicine either by patient or practitioner in route of administration or schedule, number of representative points to be applied, follow up, stimulation techniques (acupressure, current or laser), *Qi*, Sensation perceived when the correct amount of *Qi* is reached and the response of patients during intervention whatever this is.

A Cochrane revision in 11 random controlled trials with varied quality and 324 patients showed that acupuncture did not have a significant effect in pulmonary function or in global well-being, this report pointed out that in some trials significant changes were reported such as a reduction in the consumption of medication and an improvement in quality of life. This suggests that some patients with mild to moderate asthma can benefit from acupuncture.¹¹

In the Chu and collaborators trial¹² no significant differences were found in the forced expiratory volume (FEV₁) during the first second, this expressed in actual value and percentage of predicted value (pred %), after a

fake acupuncture. In contrast, the mean values of FEV₁ increased by 0.15 L and 11.6% from the predicted value after the real acupuncture was applied, showing statistical significance. In the strict sense, this was a negative trial in which no statistically significant differences were found from the real values and the predicted values in FEV₁ after applying the real acupuncture. Guidelines recommend that the percentage of FEV₁ increased be equal or greater than 15% accompanied by an absolute response of 200 mL in order to consider a bronchodilator effect. Due to the differences in position from fake and real acupuncture and that some patients received it as an alternative treatment to their chronic alterations, in this case asthma, it is not certain that the changes in FEV₁ after real acupuncture were due to psychological and not specific physiological effects. Even so, the modest bronchodilator effect should not be taken for granted. In the Shapiraa and collaborators trial in patients with moderate persistent asthma that received a small course in acupuncture, lack of changes in pulmonary function, bronchial hyperactivity and persistent symptoms were found within patients.¹³

ACUPUNCTURE AND SIDE EFFECTS

Acupuncture is the main example of mechanical damage to any anatomical part of the body, in alternative and complementary medicine, since these needles can reach vulnerable structures.¹⁴ Even though the opposite has been profoundly discussed, acupuncture is not risk free. Several pneumothorax cases have been reported due to complications in acupuncture in asthma treatment. In an Australian survey with 3,700 practitioners, 64 cases of pneumothorax were revealed and 3,222 of side effects.¹⁵ Commonly, pneumothorax is unilateral, even though there are reports of bilateral pneumothorax secondary to acupuncture^{16,17} which can lead to death.¹⁸

Cardiac clot is another severe mechanical complication deriving from acupuncture.¹⁹

Acupuncture side effects report damage directly in the bone marrow from the spinal chord, and roots of spinal nerves in six cases, four cases of damages by migration of fragments of needles.¹⁴ A recent Japanese report showed 18 cases of spinal chord damage.²⁰ Intracranial bleedings have been reported after applying acupunc-

ture in the "tiger point" "feng fu", located 3 cm below the external protuberance.²¹ A survey taken in Sweden about the side effects of acupuncture reported bleeding in 1,371 of 9,277 treatments (14.8%).²² Moxibustion was responsible for third degree burns.²³ The incorrect manipulation of acupuncture needles and their reuse without a correct sterilization technique can result in the risk of infections.²⁴ Infections of hepatitis B, HIV and bacterial subacute endocarditis have been reported. One study reported two cases of infections that lead to death.²⁰

Reports of side effects by the practice of acupuncture suggest that the system of qualifying practitioners should be improved (including doctors) avoiding self and unsupervised treatment. Certified doctors should only perform acupuncture in order to avoid possible health risks and technique complications. Besides, patients should always be warned of the potentially harmful effects.

ACUPUNCTURE AND ASTHMA: FACT OR FICTION?

There is no sufficient evidence, to this moment, that proves alternative medicine to be more effective than placebo for treating asthma. However, the lack of evidence does not always mean that the treatment is ineffective; it can however suggest that it has not been researched adequately. High quality research should be made in complementary medicine as a conventional therapy. Until these results are available taking into account their effectiveness it is better to remain skeptical and not to recommend acupuncture for asthma treatment.

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