The Effect of Moxibustion on Hypertension: an Insightful Study Conducted by Cheng and Team

New York, NY, March 21, 2019 --(PR.com)-- The research paper titled, “Moxibustion Modulates Sympathoexcitatory Cardiovascular Reflex Responses Through Paraventricular Nucleus” is written by Ling Cheng. Moxibustion is a method of treatment, in Chinese medicine. It is a form of heat therapy in which dried plant materials called “moxa” is burned on or near the surface of the skin. This is practised in treatment with an intention to warm and invigorate the flow of Qi in the body. In addition to this, it is believed to dispel certain pathogenic influences.

Moxibustion has been used to treat gastrointestinal problems such as irritable bowel syndrome, however, there is little known about its effects on hypertension. Some clinical research has shown that moxibustion may reduce hypertension in the presence of antihypertensive drugs. However, the efficacy and the mechanisms underlying moxibustion in the absence of drugs are not known.

According to some researchers, studies in men and animals have shown that electroacupuncture (EA) at specific acupoints activating peripheral nerves modified sustained hypertension and reflex elevated blood pressure through reduction of sympathetic activity. On further analysis, it was seen that specific central regions and neurotransmitter systems in the hypothalamus and medulla participate in the central processing of the action of acupuncture.

Ling Cheng's research investigates the effect as well as underlying mechanisms of moxibustion at specific acupoint on sympathoexcitatory cardiovascular reflex response in rats in the absence of antihypertensive drugs. Earlier studies have concluded that cardiovascular regions in the central nervous system (CNS) such as rostral ventrolateral medulla (rVLM), and paraventricular nucleus (PVN) are activated during stimulation of visceral spinal afferents that leads to an increase in the blood pressure. Another series of studies have shown that through actions in rostral ventrolateral medulla (rVLM), stimulation of both gallbladder and gastric afferent activates splanchnic nerves and increases blood pressure.

According to Ling Cheng and the team of researchers, the hypothesis was that moxibustion modulates sympathoexcitatory cardiovascular responses through the hypothalamic paraventricular nucleus (PVN) and peripheral heat sensitive transient receptor potential vanilloid type -1 (TRPV1) in the absence of antihypertensive drugs. For the purpose of experimentation, the minimum possible number of rats was used to obtain reproducible and statistically significant results, which are given in detail in the research paper.

The study examined four aspects that are important in the actions of moxibustion inhibition of sympathoexcitatory cardiovascular reflex responses. Cheng and the team observed that the effect of moxibustion is temperature dependent. It was observed that a temperature greater or at 43 degrees Celsius at the surface of the skin at acupoint ST36 decreased gastric distention induced reflex increases in blood pressure. Furthermore, it was seen that temperature-dependent moxibustion inhibitory effect on gastric distention induced cardiovascular responses is related to point specificity. The study also showed that blockade of TRPV1 receptor at acupoint ST36 reverses the inhibitory effect of moxibustion. The team
further observed that blockade of opioid receptors reverses the moxibustion blood pressure lowering effect.

The research results suggested that thermal dependent moxibustion stimulating ST36 activates TRPV1 in peripheral sensory nerves, reduced PVN neuronal activity through the opioid system, and decreased sympathoexcitatory cardiovascular reflex responses. According to Cheng and the team, a decrease in the cardiovascular reflex responses by stimulation of acupoint ST36 with EA or moxibustion appears to occur through different peripheral mechanisms. Furthermore, the observations during the experiments conducted imply that the activation of the sensory neuron during acupoint stimulation by different modes such as EA, MA, or moxibustion eventually decreases sympathoexcitatory responses.

Cheng and the team concluded that the present data showed that moxibustion alone decreased sympathoexcitatory blood pressure responses in comparison to the previous reports, which showed that moxibustion blood pressure lowering effect in combination with antihypertensive drugs. In addition to this, studies are warranted to examine the long-lasting effect of moxibustion on sustained hypertension.

The research conducted by Cheng and the team is significant because very little was known about moxibustion's effect on hypertension. Having high blood pressure can put one at risk for heart disease and stroke, which has become the leading cause of death worldwide. Hence, this research conducted by Cheng is the need of the hour for medical practitioners to study and find suitable treatments for their patients.

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