

CASE REPORT - STABLE CONTROL OF BLOOD PRESSURE IN PREGNANT WOMAN WITH ESSENTIAL HYPERTENSION AND PROTECTION OF FETAL ACTIVITY BY TRADITIONAL CHINESE MEDICINE ACUPUNCTUREJihe Zhu*¹, Blagica Arsovska^{1,2}, Kristina Kozovska^{1,3} and Julijana Velkovska¹¹Center for Traditional Chinese Medicine "Tong Da Tang", Republic of N. Macedonia.²Faculty of Medical Sciences, University "Goce Delcev", Stip, Republic of N. Macedonia.³Medicine Faculty, University "St. Cyril and Methodius", Skopje, Republic of N. Macedonia.***Corresponding Author: Jihe Zhu**

Center for Traditional Chinese Medicine "Tong Da Tang", Republic of N. Macedonia.

Article Received on 05/09/2022

Article Revised on 25/09/2022

Article Accepted on 15/10/2022

ABSTRACT

Essential hypertension also referred to as primary hypertension, is high blood pressure that doesn't have a known secondary cause. Acupuncture, a traditional Chinese treatment, is non-pharmaceutical therapy that can lower blood pressure by putting needles into certain points on the body. The mechanism whereby acupuncture lowers blood pressure is related to the regulation of renin-angiotensin-aldosterone system, oxidative stress, vascular endothelium and neuro-endocrine system. In this article is presented a case of 33 year old woman with essential hypertension who was treated during a high risk pregnancy. She has been diagnosed with high blood pressure since the age of 15. She has started the therapy with Piramil H since 2016 with satisfactory regulation. Before achieving pregnancy she has done 20 treatments once a week to regulate her blood pressure and get pregnant. During the whole process of her pregnancy until delivery, she used acupuncture twice a week. During the pregnancy her blood pressure varied from 145/95mmHg to 185/110mmHg. Acupuncture treatment exerts a good effect in lowering blood pressure, and so its usage has attracted increased attention.

KEYWORDS: essential hypertension, pregnancy, TCM, acupuncture, treatment.**INTRODUCTION**

Essential hypertension also referred to as primary hypertension, is high blood pressure that doesn't have a known secondary cause. Hypertension ranks among the most common chronic medical condition characterized by a constant elevation in the arterial pressure. The diagnosis of hypertension is made when the diastolic blood pressure on several readings is 90mmHg or more and the systolic blood pressure is constantly 130 mmHg or more. Peoples with high normal BP tend to maintain pressures that are above average for the general population and are at bigger risk for development of definite hypertension and cardiovascular issue than the general population.

The causes of essential hypertension are not known, because there are little information on genetic variations or genes that are over-expressed or under-expressed and for the intermediary phenotypes that they regulate to cause high blood pressure. A numerous of factors increase blood pressure, including obesity, insulin resistance, high alcohol intake, high salt intake, stress, aging and perhaps sedentary lifestyle, low potassium intake, and low calcium intake. Also, many of these factors are additive, such as obesity and alcohol intake.

Results from family studies suggest several possible genetic traits that may be related to inherited high BP, such as high sodium-lithium counter-transport, high fasting plasma insulin concentrations, low urinary kallikrein excretion, high-density LDL subfractions, fat pattern index, and body mass index.^[1]

There are people who have hypertension but do not have any symptoms, and so people often call it a "silent killer." In severe cases high blood pressure can cause: sweating, blushing, anxiety, sleeping problem, chest pain, headaches etc.^[2]

Hypertensive people also have several negative outcomes from this disorder like brain damage, heart damage, kidney damage and other like such as fundus bleeding or intermittent claudication.^[3]

According to the latest guidelines, the basic therapeutic intervention for hypertension remains drastic lifestyle changing focusing on regular physical activity, incorporation of a healthier diet, weight reduction, restriction of alcohol consumption, salt and caffeine, and stopping smoking. These restrictions seem to slow down the development of hypertension and most interestingly

could even replace drug treatment in patients with hypertension. According to the latest guidelines, three drug classes are recommended as first-line therapy: blockers of the renin-angiotensin system, diuretics, and calcium antagonists.^{[4][5]}

In recent years, in many countries' hypertension treatment guidelines, it is mentioned to increase the intervention of non-drug therapy. In the review of clinical research report on acupuncture published by the WHO, essential hypertension can definitely be treated with acupuncture. Acupuncture as a nonpharmacological intervention has been used to treat a wide variety of condition to regulate cardiovascular diseases. Acupuncture reduces blood pressure in hypertensive patients by decreases in plasma renin, aldosterone and angiotensin, increased excretion of sodium and changes in plasma norepinephrine, endorphin, serotonin and levels.^{[6][7]}

CASE REPORT

The treated patient is a 33 years old woman with essential hypertension. She was treated with acupuncture throughout her pregnancy until the delivery at 7 months of pregnancy. She has been diagnosed with hypertension at the age of 15. She started tablet therapy in 2016 with Piramil H, with satisfactory regulation. During the pregnancy she also consumed Nifepidine 30 60mg, Metildopa 250 mg, vitamins and minerals. During inspections and controls, auscultation of the heart was normal and echocardiography was normal, but aldosterone and renin were above normal limits. The patient was informed of the high risk associated with her pregnancy and wanted to continue it. In the 12th week of her pregnancy, specialist gynecologists and nephrologists suggest an abortion. During pregnancy her blood pressure varied from 145/95mmHg to 185/110mmHg. Before becoming pregnant the patient had done 10 therapies once a week. During her pregnancy she was treated with acupuncture twice a week until she gave birth. At the beginning of the pregnancy, the analyzes showed presence of protein in the urine, but during the course of the treatments, the values normalized. She gave a birth at 28 week of pregnancy and the baby's weight was 1660gr. Both the patient and the baby are healthy and in great condition.

The acupuncture treatments were made in acupuncture center for acupuncture and TCM in Skopje, North Macedonia by a doctor specialist in acupuncture. Acupuncture treatments were with duration of 30 to 45 minutes. Treatments were done indoor, on a room temperature, with acupuncture with fine sterile disposable needles sized 0.25x25mm. Acupuncture points used in the treatments are: Yin Ling Quan SP9 (left and right), Tai Chong LR3 (left and right) and Zhi Yin BL67 (left and right).

TCM is one of the oldest medicines, with more than 5000 years of history. The main TCM theories include

the teaching of "yin" and "yang" and the Five trespasses Elements (wood, fire, metal, earth and water). TCM has many goals, but primary is to balance the effects of the body's Qi, known also as the "Vital Force". TCM aims to treat not only the secondary manifestations, but also the primary causes of several chronic and acute conditions. In TCM, physiological functions, pathological changes, and the relationship of an organ with the fundamental substances, other parts of the body and other organs are more important than its anatomical structure. According to TCM, the manifestation and differentiation of syndromes rather than diseases are significant to selecting the proper therapeutic intervention. Four diagnostic methods are used in TCM to assess the human body: inspection, auscultation and olfaction, inquiry, pulse-taking and palpation. TCM have holistic concept of unity of human and nature, that means that man and nature have an integrated relationship of mutual inclusion, coordination and connection. Humans can persist healthy only by adapting to the changes of nature and interacting with them. TCM adopts the natural and harmonious way of treatment to stimulate the body's vitality, eliminates pathogenic factors and products, recovers the organs, repairs organic damage, removes mental and psychological disorders, and in the end restores health. TCM is effective in modern disease prevention and healthcare and contributes to the prevention and treatment of frequently occurring, common, and difficult and various diseases.^{[8][9]}

CONCLUSION

Acupuncture as a part of Traditional Chinese Medicine is very effective in treating essential hypertension in different cases. Treatment with acupuncture brings in balance and harmony in the body.

REFERENCES

1. Oscar A. Carretero, Suzanne Oparil, Essential Hypertension, 25 Jan 2000, *Circulation*, 2000; 101: 329–335, [doi.org/10.1161/01.CIR.101.3.329]
2. Adam Felman, reviewd by Angela M. Bell, MD, FACP, everything you need to know about hypertension (high blood pressure), November 23 2021, [https://www.medicalnewstoday.com/articles/150109]
3. Min Zhang, Yong Meng, Yongli Yang, Yancai Liu, Caiqin Dong, Jianming Xiao, Ling Zhao, Fang Li, Major inducing factors of hypertensive complications and the interventions required to reduce their prevalence: an epidemiological study of hypertension in a rural population in China, 11 may 2011, Article number 301(2011) *BMC Public Health*, ISSN: 1471-2458.
4. Ioannis Leontsinis, Manos Mantzouranis, Panagiotis Tsioufis, Ioannis Andrikou, and Costas Tsioufis, Recent advances in managing primary hypertension, 04 Nov 2020, Volume 9, 2020, [www.ncbi.nlm.nih.gov/pmc/articles/PMC7894269]

5. Michel Burnier, Sverre Kjeldsen, Anthony Heagerty, Bryan Williams, Drug treatment of hypertension, July 2018, Pages 2445–2458. [doi.org/10.1093/med/9780198784906.003.0569_up date_001]
6. Wu, Jiaojuan PhD, Zhang, Xudong PhD, Zhao, Jiping MD, Xue, Yanjun MD, Yu, Pengcheng MD, Wu, Xiaoli MD, Liu, Qingguo PhD, Clinical study on acupuncture treatment of hypertension with hyperactivity of liver yang, April 30, 2021 - Volume 100 - Issue 17 - p e25668, [journals.lww.com/md-journal]
7. Jie Wang, Xingjiang Xiong, Wei Liu, Acupuncture for essential hypertension, International Journal of Cardiology; Volume 169, Issue 5, 20 November 2013, Pages 317-326, [www.sciencedirect.com]
8. Luis Carlos Matos, Jorge Pereira Machado, Fernando Jorge Monterio, Henri Johannes Greten, Understanding Traditional Chinese Medicine Therapeutics: An Overview of the Basics and Clinical Applications, Healthcare, 2021; 9(3): 257. [www.ncbi.nlm.nih.gov/pmc/articles/PMC8000828/]
9. Danning Ma, Shanshan Wang, Yu Shi, Shenglou Ni, Minke Tang, Anlong Xu, The development of traditional Chinese medicine, Journal of Traditional Chinese Medical Sciences, 2021; 8(1): S1-S9, ISSN 2095-7548, [https://doi.org/10.1016/j.jtcms.2021.11.002.]