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Acupuncture treatment in patient with insulin resistance

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Abstract

Insulin resistance occurs when the cells in the muscles, fat, and liver fail to respond properly to insulin, preventing them from effectively utilizing glucose from the bloodstream as an energy source. Insulin is a hormone produced in the pancreas which is essential for life and regulating blood glucose levels Globally, among adults, the prevalence of insulin resistance varies between 15.5% and 46.5%. Anyone can develop insulin resistance, temporarily or chronically. Chronic insulin resistance can lead to prediabetes and then Type 2 diabetes. Insulin resistance syndrome is also known metabolic syndrome. Acupuncture, a traditional Chinese treatment, is non-pharmaceutical therapy that can be beneficial in regulating glucose and lipid metabolisms as well as in improving body weight. TCM possesses a distinctive edge due to its holistic approach and ability to regulate multiple targets. In this article is presented a case of 20 years old woman with insulin resistance 108,6 (1,1-17,0). In the same period, the patient also had an analysis of the thyroid gland, the results showed that Anti TPO is 228,6 (00,0-5,61), Anti Tg is 175,9 (<1,3), Ft4 is 0,88 and TSH is 4,0164 which are within normal range. The reason the patient had all these tests done was because she suddenly gained 15 kilograms in a short period of 2 months. She also developed facial acne and an irregular menstrual cycle. After the obtained results, the patient immediately started with acupuncture, without taking any medication beforehand. She has done 10 treatment once weekly. Acupuncture as a part of TCM can correct several metabolic disorders and to improve insulin sensitivity.

Key words: acupuncture, TCM, insulin resistance, treatment

Introduction

Insulin resistance happens when the muscle, fat, and liver cells don't respond effectively to insulin, making it difficult for them to efficiently absorb glucose from the bloodstream. Insulin resistance damage glucose disposal, resulting in a compensatory increase in beta-cell insulin production and hyperinsulinemia. Insulin is a hormone that maintains normal blood glucose levels by making easier cellular glucose uptake and regulating carbohydrates, protein and lipid metabolism. Insulin resistance contributes to the occurrence of hyperglycemia, elevated blood pressure, visceral adiposity, dyslipidemia, endothelial layer function impairment, innate and chronic inflammatory responses, and dysregulation of the hemostasis balance. [1, 2]

Many people with insulin resistance don’t have symptoms. There are some signs of insulin resistance that can be noticed like skin tags or patches of dark velvety skin, higher blood pressure, overweight or obesity. If the doctor notices these symptoms, it is necessary to do a physical test and a blood test that measure the levels of glucose, or sugar in the blood, glucose tolerance and hemoglobin A1c test. [3]

While it may not be possible to defeat insulin resistance entirely, the patient can take steps to make the body's cells more receptive to insulin like: exercise at least 30 minutes per day, eat a healthy diet, lose weight and take medications that the doctor may prescribe to help control the blood sugar. [4]

Case report

In this article is presented a case of 20 years old woman with insulin resistance 108,6 (1,1-17,0). In the same period, the patient also had an analysis of the thyroid gland, the results showed that Anti TPO is 228,6 (00,0-5,61), Anti Tg is 175,9 (<1,3), Ft4 is 0,88 and TSH is 4,0164 which are within normal range. The reason the patient had all these tests done was because she suddenly gained 15 kilograms in a short period of 2 months. She also developed facial acne and an irregular menstrual cycle because of polycystic ovaries. After the obtained results on 13.06.2023, the patient immediately started with acupuncture and she has done 10 therapies once a week, without taking any medication beforehand. After the 10th therapy, on September 15. 2023, the patient underwent new laboratory analysis, in which the insulin resistance result is 15.2, Anti Tg 157,7 and Anti TPO 185,6 which are still high, TSH is 2,94, Ft4 is 0,92, CORT is 9,80 and TST is 56,5 which are in normal range.

The acupuncture treatments were made in acupuncture clinic 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 normal (dry) acupuncture with fine sterile disposable needles sized 0.25x25mm. Acupuncture points used in the treatments are: Du20, Li4, Rn24, St22, Sp16, St36, Sp6, Lr3.

Acupuncture as a part of TCM dates back at least 2200 years, although the earliest known written record of Chinese medicine is The Yellow Emperor's Inner Classic from the 3rd century BCE. According to TCM, a person is healthy when harmony exists between yin (passive) and yang (active) force. In Western medicine there is a standard treatment protocol defined for each disease, on the other hand TCM takes a holistic approach in treating the individual with treatment based on the concept of "Syndrome Differentiation." Acupuncture as a part of Chinese medicine has received increasing attention because of the effectiveness and the positive results it provides, it is among the primary treatments in the field of complementary and alternative medicine. Acupuncture has been found to influence both the central nervous system and peripheral organs, serving as a potential modulator. Studies have indicated that acupuncture holds the capability to regulate the secretion of insulin by effectively influencing the insulin signaling pathway through the neuroendocrine pathway. Moreover, it plays a role in regulating the metabolism of glucose and lipids in insulin-responsive organs such as the liver, adipose tissue, and skeletal muscle. This form of traditional medicine demonstrates its effectiveness in enhancing insulin sensitivity by means of adjusting adipocytokines. This adjustment, in turn, fosters improved glucose and lipid metabolism while also promoting increased energy expenditure. [5, 6 ,7]

Conclusion

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

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