

## Case report - Acupuncture treatment for Astenozoospermia

Jihe Zhu<sup>1</sup>, Blagica Arsovska<sup>1</sup>, Kristina Kozovska<sup>1,2</sup>, Julijana Velkovska<sup>1</sup>

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

2 Medicine Faculty, University "St. Cyril and Methodius", Skopje, Republic of N. Macedonia;

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### Abstract

Asthenozoospermia is a common cause of human male infertility, which is defined as <40% sperm motility or less than 32% with progressive motility. Motility is the capacity of the sperm to move forward fast and in a straight manner. Low motility may suggest that the sperm may not be able to fertilize the egg in women's reproductive tract under normal conditions. Factors that can cause poor sperm motility are infections, anti-sperm antibodies, varicoceles, excessive stress, smoking and drinking, and certain genetic abnormalities. According to Traditional Chinese Medicine (TCM), the kidney stores an individual's essence and controls growth, development, and reproduction. The kidney is considered a prenatal source of life, and because of that, recognized as an essential therapy for male infertility, supplementing the kidney is the recommended approach. In this article is presented a case about a 32 years old man with asthenozoospermia diagnosed in October 2022. The semen analysis shows motility with 56%, a low number of progressive sperm cells, i.e. 29%, a lower concentration of 164 M/ml and a higher number of immobile sperm i.e. 44%. He started acupuncture treatments at the end of October and did a total of 9 treatments over a period of two and a half months. In April 2023 he made a new semen analysis with improved results, that is, the motility is 59% and the rapidly linear progressive sperm cells are 32%, also, the sperm concentration increased to 220 M/ml. Acupuncture treatments were done once a week for a duration of 30 minutes. As a part of TCM, acupuncture is a safe and effective treatment in treating asthenozoospermia and male infertility, helping to improve the whole condition of the body, sperm parameters, and the pregnancy rate.

**Keywords:** acupuncture, TCM, male, fertility, asthenozoospermia

### Introduction

Asthenozoospermia is a common cause of human male infertility, which is defined as <40% sperm motility or less than 32% with progressive motility. Motility is the capacity of the sperm to move forward quickly and in a straight manner. Asthenozoospermia may be idiopathic, due to genetic defects such as primary ciliary dyskinesia or can be caused by oxidative stress, which includes cigarette smoking, urogenital infection, and varicocele. Sperm abnormalities of suspected or proven genetic origin are rare conditions responsible for severe asthenozoospermia. [1]

Asthenozoospermia does not cause clinical symptoms. The man can have sexual intercourse and ejaculate normally, but when couples try to achieve pregnancy, complications occur. The diagnosis is established by making a semen analysis. One of the parameters that is assessed in the semen is the mobility and motility of the sperm cells.

In order to improve the quality and mobility of the sperm, it is recommended to adopt a healthy lifestyle, avoiding toxic habits like alcohol, smoking, and psychological stress. If the cause of asthenozoospermia is an infection, specialists usually prescribe appropriate antibiotic therapy. [2]

According to Traditional Chinese Medicine (TCM), the kidney is considered a prenatal source of life. Because of that, recognized as an essential therapy for male infertility, supplementing the kidney is the recommended approach. The hypothalamic-pituitary-testicular (H-P-T) axis is a crucial endocrine feedback system that governs testis function, involving both positive and negative regulation. Imbalances in hormone levels, either excessive or deficient, can have detrimental effects on spermatogenesis. Research has shown that kidney-supplementing formulas could restore the function of the H-P-T axis, and bidirectionally regulate the hormone levels of FSH and LH, and increase the testosterone level for better quality of the sperm. The essence and basic characteristics of Traditional Chinese Medicine (TCM) lie in holism and treatments based on syndrome differentiation. Utilizing this theory for treating male infertility yields sufficiently good results. Acupuncture as a part of TCM has a long history of treating male infertility, i.e., more than 2000 years. Acupuncture is a therapy that combines acupuncture methods, meridians, and acupuncture points to treat diseases. During acupuncture treatment, needles are inserted into specific areas of the body called acupoints. [3] [4]

## Case report

The treated patient is a 32 years old man with asthenozoospermia diagnosed in October 2022. The semen analysis shows motility with 56 %, a low number of progressive sperm cells i.e. 29%, a lower concentration of 164 M/ml and a higher number of immobile sperm i.e. 44%. He started acupuncture treatments at the end of October and did a total of 9 treatments over a period of two and a half months. In April 2023 he made a new

semen analysis with improved results, the motility was improved to 59% and the rapidly linear progressive sperm cells were 32%, also the sperm concentration increased to 220M/ml.

The acupuncture treatments were made in an acupuncture clinic for acupuncture and TCM in Skopje, North Macedonia by a doctor specialist in acupuncture. Acupuncture treatments were with a duration of 30 to 45 minutes. Treatments were done indoors, on a room temperature, with normal (dry) acupuncture with fine sterile disposable needles sized 0.25x25mm. Acupuncture points used in the treatments are: Du21, Bl6, Rn11, Rn14, Rn2, St30, Li4, St36, Sp6 and Lv3.

In table 1 are presented the results before and after the treatment. The positive changes in the semen analyses were achieved with 9 treatments.

Table1. Cytological analysis of semen before and after the acupuncture treatments.

Values	10.10.2022	09.04.2023	Ref. Values
Abstinence	3-4 days	3-4 days	2-7 days
Volume (ml)	3.2 ml	3.5 ml	≥ 1.5 ml
Liquefaction	Extended	Normal	< 30 min
Viscosity	Increased	Normal	Normal
Ph	7.9	7.9	≥ 7.2
<b>Spermatozoa:</b>			
Concentration	164 M/ml	220 M/ml	≥ 15 M/ml
Total number	524.8 M/ml	770 M/ml	≥ 39 M/ml
<b>Motility (%)</b>	56%	59%	a + b ≥ 40%
Quality:			
a) Progressive	29%	32 %	a: ≥ 32 %
b) Slow	27%		
c) immobile	44%	27 % 41%	
<b>Morphology</b>			
Normal sperm shape	17%	16%	>4%
Head deviation	49%	48%	
Neck deviation	27%	31%	

Tail Deviation	7%	5%	
<b>Cells</b>			
Leucocytes	No	No	
Erythrocytes	No	No	

Traditional Chinese Medicine (TCM) methods have demonstrated notable preventive and therapeutic effects in enhancing sperm quality and addressing abnormalities. TCM also plays a role in regulating immune function, modulating testis microcirculation, and preventing oxidative stress. These molecular biological pathways of TCM in the context of male infertility (MI) are interconnected and mutually influential, benefiting from a multi-target and multi-layer mechanism that enhances the treatment of male infertility.

[5]

Acupuncture has shown promising effects in improving sperm count, motility, and quality. It achieves this by enhancing blood circulation and nerve conduction to the gonads, thereby supporting spermatogenesis, hormone signaling, and temperature regulation. Acupuncture works slowly and cumulatively, the process of spermatogenesis, which involves the production of sperm in the body, typically takes around 2 to 3 months. Therefore, it is crucial to undergo acupuncture treatment for a minimum of 2 to 3 months in order to anticipate a notable improvement in sperm quality.

[6]

### Conclusion

Acupuncture as a part of Traditional Chinese Medicine is very effective method in treating asthenozoospermia and male fertility, it increases and improve sperm mobility, quality of the sperm and quantity.

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### Conflict of interest

The author have declared that no competing interests exist.

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None.

### Statement of Informed Consent

Written informed consent was obtained from the patient for his anonymized information to be published in this article.

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