

## **Acupuncture treatment for teratozoospermia**

**Blagica Arsovska<sup>1, 2</sup> Jihe Zhu<sup>1,2</sup> Kristina Kozovska<sup>1</sup> Julijana Velkovska<sup>1</sup> Natalija Jordanova Traeski<sup>3</sup>**

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

2 University "Skopje", Skopje, Republic of N. Macedonia

3 PZU Skin Solution Skopje, Republic of N. Macedonia

**DOI: <https://www.doi.org/10.59710/oaijoaru2423021a>**

### **Abstract**

Teratozoospermia is a condition that affects male fertility, that is, the morphology of the sperm is abnormal. Sperm morphology refers to the sperm shape and size. Teratozoospermia is diagnosed when more than 95% of sperm in a man's semen sample have abnormal morphology. Traditional Chinese Medicine can improve sperm motility and concentration and pregnancy rate more effectively than Western medicine. Acupuncture reduces inflammation, modulates the immune system, and increases the motility of sperm and semen parameters. Acupuncture mechanisms can be local, segmental, or central, activating the somatic afferent nerves that innervate the skin and muscles, thereby modulating their activities. In this article is presented a case of 33 years old man with teratozoospermia, ie according to the spermogram made in March 2024, the morphology of the spermatozoa was 0.99% and the reference frequency is  $\geq 4\%$ . The other motility and mobility parameters are within normal limits. The patient and his partner are planning to start an in vitro fertilization procedure, therefore he started acupuncture treatment on 31 May 2024 and he did 11 treatments. After these 11 treatments, he made a spermogram on 26.08.2024 with a diagnosis of normozoospermia, that is, the morphology of normal spermatozoa - 13.76%. Chinese medicine is a useful option for infertile men, can also alleviate inflammation, prevent oxidative stress.

**Key words:** teratozoospermia, spermogram, male infertility, TCM, acupuncture

### **Introduction**

Teratozoospermia is described as presence of spermatozoa with a proportion of normal morphology under the lower reference limit. Spermatozoa are shaped as polarized cells with a head, a connecting midpiece, and a tail. The integrity of each part of the sperm is important for the normal functioning of the spermatozoa. However, the assessment of

sperm morphology continues to be one of the most difficult assessments due to its very subjective nature which results in difficulties in standardization and reaching consistent and reproducible findings. According to the data published by Institute for Public Health of Republic of North Macedonia, from 2008 to present in the most common diseases in the country is mentioned genitourinary disease. According to the report on clinical trials conducted in the Republic of North Macedonia, a total of 27 trials, or 7.96% of all clinical trials, were focused on this category, which includes male fertility conditions such as teratozoospermia. This highlights the significant attention being given to research and treatment advancements in this area [1].

In addition to genetic causes, various clinical conditions, lifestyle habits, and exposure to certain substances have been linked to teratozoospermia. While research on the association between smoking and sperm morphology has produced conflicting results, some studies suggest that heavy smoking is correlated with reduced sperm quality, including teratozoospermia and the presence of cytoplasmic droplets in sperm. Exposure to infection or bacteria also can affect the morphology of sperm. Varicocele, which is an important cause of male infertility, also results in an increased rate of abnormal sperm morphology. Febrile conditions and testicular cancer have also been shown to affect sperm morphology. [2]

Teratozoospermia is often asymptomatic in men, meaning many do not show any noticeable signs. However, the main indication of infertility issues related to teratozoospermia is the inability to conceive after regular, unprotected intercourse. When a couple experiences difficulty getting pregnant, a semen analysis may reveal teratozoospermia as the underlying cause.

There are some treatment options for teratozoosperlima like changing lifestyle with balanced diet, less alcohol and cigarettes, regular exercise, enough sleep and stress control are also key determinants. Antioxidant supplements like vitamins C and E can improve sperm quality, including morphology. Those who cannot make babies because of the teratozoospermia disease, can think of using assisted reproductive technologies (ARTs). [3]

## **Case report**

In this article is presented a case of 33 years old man with teratozoospermia, ie according to the spermogram made in March 2024, the morphology of the spermatozoa was 0.99% and the reference frequency is  $\geq 4\%$ . The other motility and mobility parameters are within normal limits. The patient and his partner are planning to start an in vitro fertilization procedure, for that reason he started acupuncture treatment on 31 May 2024 and he did 11 treatments. After these 11 treatments, he made a spermogram on 26.08.2024 and resulted in a diagnosis of normozoospermia, that is, the morphology of normal spermatozoa - 13.76% ie more than 4%. After the obtained results, the patient continued with acupuncture treatments once in 14 days.

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: DU 20, LI 4, RN 5, RN 3, ST 30, ST 36, SP 6, LV 3 .

Traditional Chinese Medicine (TCM) has been shown to regulate the hypothalamic-pituitary-testicular axis, enhancing the functions of both Sertoli and Leydig cells. Additionally, TCM can reduce inflammation, prevent oxidative stress, and lower the DNA fragmentation index. It also improves testicular microcirculation, decreases serum anti-sperm antibody levels, and modifies epigenetic markers. In China, TCM has been employed to treat male infertility for more than 2000 years, Holism and treatments based on syndrome differentiation are the essence and the basic characteristics of TCM, and utilizing this theory for treating male infertility gives satisfactory results. [4]

Health is attained by keeping the body in a state of balance, while disease arises from an imbalance. This imbalance disrupts the natural flow of vital energy, known as qi, along the meridians, causing blockages. Male infertility may be attributed to either 'kidney deficiency' or 'damp heat' in the genital system. Kidney deficiency is often linked to spermatogenic failure, while damp heat is typically associated with inflammation of the genital tract.

Acupuncture, a branch of TCM, has been used for thousands of years in China to treat diseases by combining meridians, acupuncture points, and various acupuncture techniques. In TCM, it is believed that a network of meridians connects and coordinates the internal organs and surface tissues of the body. During acupuncture treatment, needles are inserted into specific points called acupoints, which elicit sensations of soreness, numbness, fullness, or heaviness—referred to as "Qi arriving." This process helps regulate and restore the flow of Qi, promoting healing and treating various diseases. [5]

## **Conclusion**

Acupuncture, as part of TCM, has shown positive results in improving sperm parameters of men suffering from impaired sperm quality. The use of acupuncture to treat male infertility has been documented in numerous ancient texts. The World Health Organization has announced the range of conditions treated by acupuncture in the endocrine, respiratory, circulatory, nervous, alimentary, urinary, reproductive systems, etc.

## References:

1. Stojkovski K, Dameska-Stojkovska E, Stojkovski V, Mihaylov MP, Reported clinical trials in the Republic of North Macedonia, pp. 1-5 in Open Access Int. J. Acad. Res. Universes. DOI: 10.59710/oaijoaru2422027s.
2. Atmoko W, Savira M, Shah R, Chung E, Agarwal A, *Isolated teratozoospermia: revisiting its relevance in male infertility: a narrative review*, pp. 1-15 in *Transl. Androl. Urol.*, Vol. 13, No. 2, 2024. ISSN: 2223-4691. Available at: [www.artfertilityclinics.com].
3. Zhou SH, Deng YF, Weng ZW, Weng HW, Liu ZD, *Traditional Chinese Medicine as a Remedy for Male Infertility: A Review*, pp. 175-185 in *World J Mens Health*, Vol. 37, No. 2, 2019. doi: 10.5534/wjmh.180069. PMID: 30644235; PMCID: PMC6479084.
4. Ho LM, Chui SL, Hum SC, Foo JQM, Fook-Chong SMC, Chong SF, Geng M, Loh KG, Loh KY, Lee SN, Yu SL, Yong TT, *A single-arm pilot study on effects of acupuncture treatment on semen parameters of subfertile Singaporean men*, pp. 266-271 in *Asian Pac J Reprod*, Vol. 4, Issue 4, 2015. doi: 10.1016/j.apjr.2015.07.004. Available at: [www.sciencedirect.com].
5. Feng J, He H, Wang Y, Zhang X, Zhang X, Zhang T, Zhu M, Wu X, Zhang Y, *The efficacy and mechanism of acupuncture in the treatment of male infertility: A literature review*, pp. 1-13 in *Front Endocrinol (Lausanne)*, Vol. 13, 2022. doi: 10.3389/fendo.2022.1009537. PMID: 36329891; PMCID: PMC9624472. Available at: [www.ncbi.nlm.nih.gov].