

Case Report

Using Laser Acupuncture and Low Level Laser Therapy (LLLT) to Treat Male Infertility by Improving Semen Quality: Case Report

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Received: 08 July 2019; **Accepted:** 24 July 2019; **Published:** 26 September 2019

Abstract

Infertility is worldwide a health and psychological burden for couples aiming at building up a family. Male and female are equally involved in reasons for infertility. In 50% percent of the cases, the issue is caused by the male. The purpose of this study is to evaluate the effect of Laser acupuncture and Low Level Laser Therapy (LLLT) on the sperm quality of an infertile male with an idiopathic reason. A 32- year- old infertile male with low quality sperm was referred to the Sheykh Bahaaee clinic after spermogram testing in a central pathobiology laboratory according to 2010 World Health Organization (WHO) standards. The following laser acupuncture treatment was conducted; points: LI4, Liv3, Sp6, Kid3, Kid6, Sp5, Ren3, St29, Du4, St36, Ub20, Ub23 and also auricular points: shenmen, prostate gland, interferon, kidney, liver, spleen, by laser pen with 810 n.m, 400 mw power, Nogier B frequency (584 Hz) and each area 1-6 joules, according to patient's vascular autonomic signal (VAS), twice a week, in 15 sessions. Furthermore, super pulse laser with the following parameters setting was conducted: 5*60W = 300 W peak power, duration 200 ns, length wave of 904 n.m, Nogier B frequency, 10 joules according to patient's VAS was applied on local areas: symphysis pubis, prostate gland, pelvic area twice a week in 15 sessions. Findings: After 15 sessions the spermogram test was done. The test showed that the sperm mobility, enhanced 23% and sperm morphology increased 25%. In addition, changes in sperm count and volume of sperm were seen. Results: The results showed LLLT and laser acupuncture were effective on the enhancement of sperm quality.

Keywords: Sperm quality; Infertility; Laser acupuncture; Low Level Laser Therapy (LLLT)

1. Introduction

Becoming parents is one of the most important desires of human beings. Unfortunately, many couples suffer from infertility. About 50% of infertility disorders is related to men. Poor semen quality is the main cause of infertility in Men [1]. Some of the causes of infertility in men are genetic disorders, genital organs, block, varicocele, low sperm count and impotence [2]. Psychologically, infertility is a critical period of the couple's life wanting children [3]. Studies show the drugs such as androgens, gonadotropins, corticosteroids are not effective on men's infertility. Therefore, approximately 20% of infertile men choose alternative medicine such as herbal remedies and acupuncture. In addition, they also change their lifestyle and take antioxidants like vitamin E and L-carnitine [1]. Acupuncture and herbal remedies improve sperm count, sperm motility and sperm morphology. Stimulation of acupuncture points increases blood in testicular arteries and decreases testicular temperature [4].

In fact, T.C.M (Traditional Chinese Medicine) balances qi and blood, yin and yang and has proven effective on reproductive organs [5]. T.C.M believes that the semen disorders are due to liver, spleen and kidney disturbance and among all, the kidney role is more important [6]. It is becoming more prevalent to use LLLT instead of needles to stimulate acupuncture points. Low level Laser Therapy (LLLT) is a form of phototherapy which has been employed as a treatment for a variety of conditions [7].

Laser acupuncture is a non-aggressive treatment used instead of needle acupuncture. The advantages of Laser acupuncture in comparison to needle acupuncture is that it is painless, has no fainting, or infection caused by needle, and has a longer lasting effect [8]. Research in Pub Med and more than 850 articles published in 2017 confirm that laser acupuncture is more effective in comparison with needle acupuncture [9]. Guilherme Henrique research show that LLLT increases the percentage of live sperm cells and sperm motility with more positive results. He practiced radiation with the length wave of 660 n.m, 30 mw power, and energy of 4 and 6 joules for 80-120 seconds respectively [10]. According to the above notes, researcher intends to evaluate effect of laser acupuncture and LLLT on a male with infertility and sperm quality disorder.

2. Case Presentation

This is a case observation which is done in the Sheykh Bahae clinic. The case was done on a 32- year- old infertile male with low quality sperm with an idiopathic reason. Before treatment he did the spermogram test in the central pathobiology laboratory, according to 2010 WHO standards. Treatment with laser pen with the following setting of: 810 n.m, 400 mw, Nogier B (584 Hz) frequency, each point 1-6 Joules according to patient's VAS was started on these points: LI₄, Liv₃, Sp₆, Kid₃, Kid₆, Sp₅, Ren₃, St₂₉, Du₄, St₃₆, Ub₂₀, Ub₂₃ and also auricular points: prostate gland, interferon, kidney, liver, spleen and shenmen in 15 sessions twice a week. Also super pulse laser 5*60 W=300 W, 904 n.m, Nogier B frequency, 10 J was applied to the symphysis pubis, prostate gland and pelvic area. The treatment was done twice a week in 15 sessions.

After treatment in 15 sessions, spermogram test was done in the same laboratory. The findings are as below:

3. Findings

Before

| Volume, ml | Count | Motility | Morphology |
|------------|-------|-----------------------|------------|
| 1 | 30 | Total progressive: 20 | Normal: 41 |

After

| Volume, ml | Count | Motility | Morphology |
|------------|-------|-----------------------|------------|
| 4 | 42 | Total progressive: 43 | Normal: 65 |

4. Discussion

In conclusion, a result of this case study at Sheykh Bahaee clinic shows that LLLT and laser acupuncture has been effective on sperm quality improvement. This result confirms Guilherme research which shows LLLT has a positive effect on sperm motility [10]. It also confirms Ross research which shows the radiation of LLLT with 905 n.m, 50 mw, 30 seconds on the genital area, 85% most promoted in oligospermic and asthenospermic samples and sperm motility [11].

In addition, in Firestone research, applying LLLT, resulted in sperm motility increase [12]. Sperm count and sperm motility were increased in acupuncture treatment by balancing qi and blood, twice a week in 5 weeks. Besides, it improves morphology as well [13, 14]. Junyoung chose the best point, St₂₉ to stimulate which is very effective on kidney, spleen and liver meridians and increases blood in testicular area; By doing so, sperm motility was increased 13% and sperm morphology 4% [4]. He also did another research on 2 Korean men with varicocele disorder. He reported results with acupuncture treatment. The patients were visited once a week for 2 months. In this research the scrotal thermoregulation of both patients was improved [15]. Shaofang stated that semen non-liquefaction is one of the infertility causes. The kidney yin deficiency and hyperactivity of liver burns body liquids. So it causes thick and unliquefied semen. Also, kidney yang deficiency can't warm qi and essence. These researchers had an effective treatment with T.C.M on sperm quality [6].

5. Results

In conclusion, a second semen analysis of patient was improved according to WHO standards after 15 treatment sessions. As per the above table, Sperm mobility changed 23% and sperm morphology 24%. Furthermore, sperm count and volume of sperm enhanced significantly.

6. Suggestion

The presented case study was done on a single case and it is suggested to practice such a research on more male candidates to collect more evidence resulting in better understanding, effectiveness and evaluation. Furthermore, group study could be a very positive and effective method to compare the different effects.

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Citation: Sajedeh Behtaj, Michael Weber. Using Laser Acupuncture and Low Level Laser Therapy (LLLT) to Treat Male Infertility by Improving Semen Quality: Case Report. *Archives of Clinical and Medical Case Reports* 3 (2019): 349-352.



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