

# Case Report: Acupuncture Treatment in Female Patient Undergoing IVF (*In Vitro* Fertilization)

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## Abstract

Acupuncture as part of the Traditional Chinese Medicine (TCM) is used for a very long time as a treatment for infertility issues. Through the specific acupoints located on the meridians, with the acupuncture treatment the Qi and blood flow can be regulated and the whole body energy balanced. Acupuncture increases the blood flow to the ovaries and uterus, improving the implantation condition, the ovarian and follicular function and balancing the hormones. In this research, it is presented a case of 32-year-old woman who has already had an unsuccessful *in vitro* cycle, 6 months before starting acupuncture treatments. The patient has done 8 acupuncture treatments in our clinic before starting the second cycle of embryo transfer. The treatments were done twice monthly in a period of 4 months. Before starting the first embryo transfer, the FSH was at high levels: 11 mIU/mL (1.98 - 11.6). After the acupuncture treatments, it was normalized to 8.11 mIU/mL. The second embryo transfer was successful and so far the patient is in good health. Acupuncture treatment as part of the TCM, helps the female reproductive system to function properly, especially in an important periods of fertilization, keeping the pregnancy rates high.

## Keywords

Acupuncture, Traditional Chinese Medicine, IVF, Fertility, Pregnancy

## 1. Introduction

*In vitro* fertilization (IVF) is a commonly used medical method in the treatment of various types of infertility. Infertility is becoming a modern worldwide problem in young couples who are trying to get pregnant. In US, 1 of 5 women are facing infertility problems being unable to conceive or difficulty carrying a pregnancy to term. It is also reported that on average one in every six couples

struggle with conception issues [1] [2] [3] [4].

The causes of infertility may be the following issues: abnormalities in oocyte production; abnormalities in the implantation process, anatomical abnormalities (cervical, tubal, uterine or peritoneal factors), poor egg quality, anovulation, small uterus, poor blood flow to the uterus and endometrium, hormonal imbalances, smoking, alcohol, obesity, emotional factors, immunological factors and others [4].

Because of the high financial and emotional cost of the IVF procedures, many couples have turned to alternative and complementary medicine. In China, acupuncture is used regularly as a treatment for regulation of the female reproductive system by Qi and blood stimulation and regulating homeostasis. Gynecological conditions and conditions of the reproductive organs, respond well to acupuncture treatments [4].

Acupuncture as part of the Traditional Chinese Medicine (TCM) is used for a very long time as a treatment for infertility issues. The treatment is useful and effective in many diseases and becomes very popular worldwide due to the low side-effects and the great effects on the whole well-being. Through the specific acupoints located on the meridians, with the acupuncture treatment, the Qi and blood flow can be regulated and the whole body energy balanced. Acupuncture increases the blood flow to the ovaries and uterus, improving the implantation condition, the ovarian and follicular function and balancing the hormones [1] [2].

The acupuncture points used in the treatment must be chosen with care and knowledge and clinical judgement should be implemented whenever acupuncture is used to assist pregnancy and fertility [4].

A proper treatment and selection of acupuncture points, in order to give the best available effects of the acupuncture treatment, depend upon correct diagnosis of the present condition at that time and the infertility pattern [4].

With the publication of the paper, we want the public to know about the effects of acupuncture in IVF treatments and that it is absolutely economically viable, safe, helpful and valuable treatment. Also, we want the patients to know they always have other helpful alternative options.

## 2. Case Report

In this research is presented a case of 32 year old woman who has already had an unsuccessful *in vitro* cycle, 6 months before starting acupuncture treatments. The patient is with a normal finding, without previous diseases, without additional therapies, with normal blood pressure and normal blood count. The menstrual cycle is regular at 28 days and lasts for 4 days. The reason for infertility was high FSH level. The couple decided for IVF because conceiving naturally was not successful after more than a year of trying. Since the acupuncture treatments started, the patient hasn't done any other additional treatments or taken any other additional medications.

The patient has done 8 acupuncture treatments in our clinic before starting the second cycle of embryo transfer. The treatments were done twice monthly in a period of 4 months. The patient was treated with acupuncture treatment in a clinic for TCM and acupuncture in Skopje, Macedonia, by a doctor specialist in acupuncture. Treatments were with duration of 35 - 40 minutes on both sides of the body. Treatments were done indoors, at room temperature. In the treatment were used fine sterile disposable needles 0.25 × 25 mm manufactured by Wuijiang City Medical & Health Material Co., LTD.

Acupuncture points used in the treatment are: LI4 (HeGu), HN1 (SiShen-Cong), ST36 (ZuSanLi), SP9 (YinLingQuan), GB34 (YangLingQuan), SP6 (SanYinJiao), LR3 (TaiChong), RN13 (ZhongWan), RN4 (GuanYuan), RN7 (Qi-Hai), RN2 (QuGu), ST29 (GuiLai), GB20 (FengChi), ST25 (TianShu), BL18 (GanShu), DU14 (DaZhui), BL19 (DanShu), BL21 (WeiShu), BL20 (PiShu), BL32 (CiLiao) and BL25 (DaChangShu).

Before starting the first embryo transfer the FSH was at high levels: 11 mIU/mL (1.98 - 11.6). After the acupuncture treatments it was normalized to 8.11 mIU/mL. The second embryo transfer was successful and so far the patient is in good health. The results from the hormone analysis done after the treatments and before the second transfer are presented in **Table 1**.

### 3. Discussion

There are many studies claiming the positive effects of the acupuncture treatment done on patients struggling with infertility and undergoing IVF. The treatments resulted with a significant higher implantation and pregnancy rate and improved IVF outcome on the day of the embryo transfer [1] [5] [6] [7].

Many studies have reported that one factor in positive pregnancy outcomes may be endometrial thickness. Other important factors that improve the pregnancy

**Table 1.** Hormonal analysis results.

| Hormones     | Results | Ref. value           |
|--------------|---------|----------------------|
| FSH          | 8.11    | 1.98 - 11.6 mIU/mL   |
| LH           | 5.70    | 1.98-11.0 mIU/mL     |
| Prolactin    | 10.40   | 3.2- 24.3 ng/mL      |
| Estrogen     | 26.00   | 26.5 - 161.00 pg/ml  |
| Testosterone | 1.52    | 0.19 - 2.67 ng/mL    |
| DHEA-SO4     | 3.2     | 0.8 - 3.9 mg/mL      |
| AHD          | 4.3     | 0.7 - 3.5 ng/mL      |
| Insulin      | <2.00   | 6.0 - 27.0 pIU/mL    |
| Cortisol     | 317.00  | 126.0 - 625.0 nmol/L |
| TSH          | 1.30    | 0.46 - 4.6 pIU/mL    |
| FT4          | 13.90   | 11.5 - 22.7 pmol/L   |

outcomes are selection of the correct point according to the infertility pattern diagnosis, obtaining a substantial de qi response and correct timing and administration of acupuncture treatment. By the TCM theories, a normal menstrual cycle has yin and yang phases that should not be ignored, because they have a profound effect on pattern identification and point selection [4].

Homeostasis, balance and harmony are necessary to achieve successful implantation and the best possible opportunity for IVF. Therefore, the treatment is aimed to improve Qi and blood flow to the most relevant meridians: Stomach, Liver, Kidney and Spleen. The Kidney supplies Qi to the uterus itself, and the Liver and Spleen meridians supply the ovaries, fallopian tubes and endometrium [4].

A recently done study including 84 infertile patients who had at least two prior unsuccessful IVF fertility procedures, has shown that acupuncture and moxibustion have significant clinical efficacy and can increase the viability of the IVF procedures. Another study done on women receiving IVF and treated with electro-acupuncture, discovered that the acupuncture treatment increases blood and embryo levels of HLA-G protein and improves live birth rates [8].

Acupuncture has huge beneficial effects in reproductive outcome, improving the IVF outcome, increasing the uterine blood flow, influencing the ovulation and menstrual cycle, modulating the immune factors (especially cytokines), inhibiting uterine motility, reducing stress, depression and anxiety [1].

Acupuncture helps the women to prepare for IVF both physically and emotionally, by supporting the pre- and post-IVF embryo intervention and amplifying optimal endometrial conditions [4].

#### **4. Conclusion**

Acupuncture treatment as part of the TCM, helps the female reproductive system to function properly, especially in an important periods of fertilization, keeping the pregnancy rates high.

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#### **Statement of Informed Consent**

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

#### **Conflicts of Interest**

The authors declare no conflicts of interest regarding the publication of this paper.

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