## **Female Infertility Treatment with Acupuncture**

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Infertility currently affects about 6.1 million women in the USA. Although in vitro fertilization (IVF) has been routinely used for female infertility, the average success rate is lower than 30% (American Pregnancy Association). The encouraging news for those who have no successful results from the conventional medical treatment is that IVF and IUI (intra-uterine insemination) are not the only choices for infertility treatment. Acupuncture and Chinese herbal formula can be used to treat of infertility in both women and men. Moreover, the treatment can be also combined with IVF to provide higher opportunities for conception and pregnancy, evidenced by a number of clinical studies. So far, no side effects from such treatment have been reported.

The causes of infertility are complicated. In addition to the hormonal imbalances, the causes could be related to physical health condition, environmental, social and psychological stress, as well as unhealthy living style. As the results, the hormone function is interfered with. It should be mentioned that hormone functions rely on not only the amount of hormones but the quality of the hormone receptors. We hypothesize that some patients do not respond to the hormone therapy, including IVF, because the hormone receptors do not function. That may explain why IVF treatment alone may not solve many patients' infertilities, particularly older women.

Traditional Chinese medicine has been used for treating infertility for thousands of years. From the view of traditional Chinese medicine, infertility could be explained by two major reasons: vital essence or Qi deficiency and blood stasis. The symptoms of vital essence deficiency in infertility include fatigue, low libido, lower back ache, weakness and light menstrual period, as well as poor functions of the hormone receptors. The clinical manifestations of the Qi/blood stagnation could be any symptoms of PMS, irritability, anger, breast distention, irregular period, menstrual clots and abdominal cramping. The abnormal function of the endocrine system, including pituitary, adrenal, and ovary glands, explain, at least in part, the Qi or blood stasis syndrome in the infertility status. We speculate that the excessive IVF may aggravate the imbalance through the female hormone-pituitary-ovary biofeedback circuit.<sup>1</sup>

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Acupuncture and herbs have been popularly used for improving fertility in China and many other countries, which have enriched conventional clinical practice greatly in the last a few decades. A report from Zhejiang College of Traditional Chinese Medicine showed that a marked 35.29% improvement were observed on 34 patients of ovulatory dysfunction, treated by the acupuncture alone. Up to 82.35% of the subjects showed a certain level of improvement on the hormone function, including FSH, LH, E2 and progesterone (Mo X).

In the past years, acupuncture has been actively introduced into clinical practices for infertility treatment in USA. Several research studies published in medical journals demonstrated the impressive results from the combined treatment of acupuncture with IVF. For example, a landmark study published in the Fertility and Sterility journal<sup>2</sup> showed that women undergoing embryo transfer, performed with invitro fertilization with acupuncture together, obtained a 42.5% successful response rate to the treatment, compared with the 26.3% success rate of those who did not get acupuncture.2 Another clinical trial involving 225 IVF/ISCI patients demonstrated that acupuncture, performed during the luteal-phase of the cycle, 12 to 14 days following ovulation, induced more than twice as much pregnancy rates, as placebo acupuncture, that is: 33.6% vs. 15.6% in pregnancy rates, and 28.4% vs. 13.8% in ongoing pregnancy rates.<sup>3</sup>

The results of a clinical study involving 273 IVF patients with acupuncture illustrated that acupuncture on the day of embryo transfer, or right before and after the transfer, significantly improved the clinical pregnancy rates from 26% to 39%, and the ongoing pregnancy rates from 22% to 36%.

The research reveals that acupuncture may affect multiple aspects of body function, that may promote the fertility process, including: a. increase uterine artery blood flow, which improves the uterine lining and enhanced possibilities of implantation; b. modulate the hypothalamic pituitary - ovarian axis function, which is essential for proper hormonal modulations and hence impact the plasma levels of the fertility hormones; c. increase the endorphin levels, which in turn affects the release of a gonadotropin-releasing hormone involved in regulating reproduction; d. lower the stress that can aggravate the infertility; e. positively affect polycystic ovarian syndrome.<sup>4</sup> In addition, many studies suggest that acupuncture can improve ovulation by improving hormonal balances and promoting mature follicle development.<sup>5-7</sup>

The indication of acupuncture for the infertility include unexplained infertility, unexplained IVF and implantation failure, intolerance to IVF, luteal phase defect, and low sperm count or poor sperm motility of men. As a matter of fact, acupuncture is particularly valuable for the unexplained infertility. There are still many questions that need to be answered in the acupuncture practice for infertility, such as the choices of the acupoints, the timing selections of the acupuncture in the IVF or ICU procedure. More studies are expected to answer the questions in the near future.

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