



Medical Studies for Infertility affecting Women

Below are medical studies that provide supporting evidence of the effectiveness of traditional chinese medicine when treating infertility due to the woman. These are provided to you as a reference and background information about fertility treatments. All articles are property of their respective authors and publishers.

Acupuncture protocols improve outcomes of IVF Poor Responders.

Significant increases in pregnancy outcomes were confirmed by this study and the data uniquely supported the advantage of acupuncture in patients. This study is the first to demonstrate that the use of acupuncture in patients with poor prognoses (elevated Peak FSH, longer history of infertility, poor sperm morphology) can achieve similar pregnancy rates to normal prognosis patients.

Source: "Acupuncture & IVF Poor Responders: A Cure?" P. C. Magarelli, D. K. Cridennda, M. Cohen. Reproductive Medicine & Fertility Center, Colorado Springs, CO; East Winds Acupuncture, Inc., Colorado Springs, CO.

Electro stimulation acupuncture and traditional combined with auricular acupuncture on IVF improve outcomes in good prognosis patients.

Total IVF cases 114 - 53 with Acupuncture (Ac) and 61 without Acupuncture (Non-Ac). Pregnancy rates (PR) and Miscarriage rates (SAB) were statistically improved in those patients that received Acupuncture (51% v 36% PR and 8% v 20% SAB in the AC v Non-Ac groups). There were no ectopic pregnancies in the Ac group and 9% in the Non-Ac group, $p < 0.008$. Finally, Birth rates (BR) per cycle start and per pregnancy were significantly higher in the Ac group, with 23% more births/pregnancy. The use of adjunctive therapies in IVF protocols is gaining popularity. In previously published data, Acupuncture was reserved for Poorer Prognosis patients and enhanced outcomes were observed. In this study, we demonstrated that Good Prognosis patients would also benefit from inclusion of published Acupuncture protocols. This is also the first publication of Birth outcome data in Acupuncture treated IVF patients. Acupuncture significantly increased birth outcomes; it significantly decreased ectopic pregnancies and miscarriage rates. These data uniquely support a definitive role of both Electrostimulation and Traditional combined with Auricular Acupuncture in IVF in

Good Prognosis IVF patients.

Source: "Acupuncture and good prognosis IVF patients: Synergy." P. C. Magarelli, D. K. Cridennda, M. Cohen. Reproductive Medicine & Fertility Center, Colorado Springs, CO; East Winds Acupuncture, Inc., Colorado Springs, CO.

Acupuncture can improve sperm quality and fertilization rates in assisted reproductive technology.

The clinical effects of acupuncture on idiopathic male infertility in sperm parameter and on therapeutic results in assisted reproductive technology were investigated. 22 patients failed in intracytoplasmic sperm injection (ICSI) with idiopathic male infertility were treated with acupuncture twice weekly for 8 weeks, followed by ICSI treatment again. The sperm concentration, motility, morphology, fertilization rates and embryo quality were observed.

Quick sperm motility after acupuncture (18.3% +/- 9.6%) was significantly improved as compared with that before treatment (11.0% +/- 7.5%, $P < 0.01$). The normal sperm ratio was increased after acupuncture (21.1% +/- 10.4% vs 16.2% +/- 8.2%, $P < 0.05$). The fertilization rates after acupuncture (66.2%) were obviously higher than that before treatment (40.2%, $P < 0.01$). The embryo quality after acupuncture was improved. Acupuncture can improve sperm quality and fertilization rates in assisted reproductive technology.

Source: "Influence of acupuncture on idiopathic male infertility in assisted reproduction therapy." Dr. M. Zhang et al. J Huazhong Univ Sci Technolog Med Sci 2002;22(3):228-30.

Influence of acupuncture on the pregnancy rate in patients who undergo assisted reproduction therapy.

OBJECTIVE: To evaluate the effect of acupuncture on the pregnancy rate in assisted reproduction therapy (ART) by comparing a group of patients receiving acupuncture treatment shortly before and after embryo transfer with a control group receiving no acupuncture.

PATIENT(S): After giving informed consent, 160 patients who were undergoing ART and who had good quality embryos were divided into the following two groups through random selection: embryo transfer with acupuncture (n = 80) and embryo transfer without acupuncture (n = 80).

INTERVENTION(S): Acupuncture was performed in 80 patients 25 minutes before and after embryo transfer. In the control group, embryos were transferred without any supportive therapy. **RESULT(S):** Clinical pregnancies were documented in 34 of 80 patients (42.5%) in the acupuncture group, whereas

pregnancy rate was only 26.3% (21 out of 80 patients) in the control group.
CONCLUSION(S): Acupuncture seems to be a useful tool for improving pregnancy rate after ART.

Source: Paulus WE, Zhang M, Strehler E, El-Danasouri I, Sterzik K. Department of Reproductive Medicine, Christian-Lauritzen-Institut, Ulm, Germany, Fertil Steril. 2002 Apr;77(4):721-4.

Effects of electro-acupuncture on anovulation in women with polycystic ovary syndrome.

BACKGROUND: The present study was designed to evaluate if electro-acupuncture (EA) could affect oligo-/anovulation and related endocrine and neuroendocrine parameters in women with polycystic ovary syndrome (PCOS). METHODS: Twenty-four women (between the ages of 24 and 40 years) with PCOS and oligo-/amenorrhea were included in this non-randomized, longitudinal, prospective study. The study period was defined as the period extending from 3 months before the first EA treatment, to 3 months after the last EA treatment (10-14 treatments), in total 8-9 months. The menstrual and ovulation patterns were confirmed by recording of vaginal bleedings and by daily registrations of the basal body temperature (BBT). Blood samples were collected within a week before the first EA, within a week after the last EA and 3 months after EA. RESULTS: Nine women (38%) experienced a good effect. They displayed a mean of 0.66 ovulations/woman and month in the period during and after the EA period compared to a mean of 0.15 before the EA period ($p=0.004$). CONCLUSION: Repeated EA treatments induce regular ovulations in more than one third of the women with PCOS.

Source: Stener-Victorin E, Waldenström U, Tagnfors U, Lundeberg T, Lindstedt G, Janson PO. Department of Obstetrics and Gynecology, Göteborg University, Sweden. Acta Obstet Gynecol Scand. 2000 Mar;79(3):180-8.

Acupuncture Treatment For Infertile Women Undergoing Intracytoplasmic Sperm Injection (ICSI)

Background: Little information exists regarding the use of acupuncture in combination with allopathic treatment of infertility.

Objective: To describe the use of acupuncture to stimulate follicle development in women undergoing in vitro fertilization.

Design, Setting, and Patients: Prospective case series of 6 women receiving intracytoplasmic sperm injection and acupuncture along with agents for ovarian stimulation.

Main Outcome Measures: Number of follicles retrieved, conception, and pregnancy past the 1st trimester before and after acupuncture treatment.

Results: No pregnancies occurred in the non-acupuncture cycles. Three women produced more follicles with acupuncture treatment (mean, 11.3 vs 3.9 prior to acupuncture; $P=.005$). All 3 women conceived, but only 1 pregnancy lasted past the 1st trimester.

Conclusion: Acupuncture may be a useful adjunct to gonadotropin therapy to produce follicles in women undergoing in vitro fertilization.

Source: Sandra L. Emmons, MD, Phillip Patton, MD. Medical Acupuncture, A Journal For Physicians By Physicians. Spring / Summer 2000- Volume 12 / Number 2

Substitution of Acupuncture for HCG in Ovulation Induction

Source: Cai Xuefen. Obstetrical & Gynecological Hospital, Zhejiang Medical University, Zhejiang Province 310006 Journal of Traditional Chinese Medicine 17 (2):119-121,1997

By using human menopausal gonadotropin (HMG) and human chorionic gonadotropin (HCG), fairly good clinical therapeutic efficacy has been obtained in the treatment of infertility. However, difficulties are brought about due to the ovarian hyperstimulation syndrome (OHSS) easily induced by these two drugs. Therefore, we attempted to use acupuncture instead of HCG in the induction of ovulation from 1989 to 1992, and satisfactory therapeutic effect was achieved as reported in the following.

Acupuncture normalizes dysfunction of hypothalamic-pituitary-ovarian axis.

Source: Chen BY. Institute of Acupuncture, Shanghai Medical University, P.R. China. Acupunct Electrother Res. 1997;22(2):97-108.

This article summarizes the studies of the mechanism of electroacupuncture (EA) in the regulation of the abnormal function of hypothalamic-pituitary-ovarian axis (HPOA) in our laboratory. Clinical observation showed that EA with the effective acupoints could cure some anovulatory patients in a highly effective rate and the experimental results suggested that EA might regulate the dysfunction of HPOA in several ways, which means EA could influence some gene expression of brain, thereby, normalizing secretion of some hormones, such as GnRH, LH and

E2. The effects of EA might possess a relative specificity on acupoints.

Reduction of blood flow impedance in the uterine arteries of infertile women with electro-acupuncture.

Source: Stener-Victorin E, Waldenström U, Andersson SA, Wiklund M. Department of Obstetrics and Gynaecology, Fertility Centre Scandinavia, University of Gothenburg, S-41345 Gothenburg, Sweden. Hum Reprod. 1996 Jun;11(6):1314-7.

In order to assess whether electro-acupuncture (EA) can reduce a high uterine artery blood flow impedance, 10 infertile but otherwise healthy women with a pulsatility index (PI) ≥ 3.0 in the uterine arteries were treated with EA in a prospective, non-randomized study. Before inclusion in the study and throughout the entire study period, the women were down-regulated with a gonadotrophin-releasing hormone analogue (GnRHa) in order to exclude any fluctuating endogenous hormone effects on the PI. The baseline PI was measured when the serum oestradiol was ≤ 0.1 nmol/l, and thereafter the women were given EA eight times, twice a week for 4 weeks. The PI was measured again closely after the eighth EA treatment, and once more 10-14 days after the EA period. Skin temperature on the forehead (STFH) and in the lumbosacral area (STLS) was measured during the first, fifth and eighth EA treatments. Compared to the mean baseline PI, the mean PI was significantly reduced both shortly after the eighth EA treatment ($P < 0.0001$) and 10-14 days after the EA period ($P < 0.0001$). STFH increased significantly during the EA treatments. It is suggested that both of these effects are due to a central inhibition of the sympathetic activity.

Clinical studies on the mechanism for acupuncture stimulation of ovulation.

Source: Mo X, et al. Zhejiang College of Traditional Chinese Medicine, Hangzhou. J Trad Chin Med. 1993 Jun;13(2):115-9.

Ovulatory dysfunction is commonly seen in gynecology clinic. It may cause infertility, amenia, functional uterine bleeding and a variety of complications. This research according to TCM theory records treating with acupuncture 34 patients suffering from ovulatory dysfunction. Changes in clinical symptoms and some relative targets are reported, plus findings in animal experiments. The effect of acupuncture in improving ovulation and the rationale are discussed. According to TCM theory concerning the generative and physiologic axis of women, this research involved the following points: Ganshu (UB 18), Shenshu (UB 23), Guanyuan (Ren 4), Zhongji (Ren 3), and Sanyinjiao (Sp 6). The reinforcement and reduction of acupuncture enables it to strengthen liver and kidney. Through the Chong and Ren channels it nourishes uterus to adjust the patient's axis function and recover ovulation. Treated on an average of 30 times, the patients' symptoms improved to varying degrees. The marked effective rate was 35.29%,

the total effective rate being 82.35%. BBT, VS, CMS, and B ultrasonic picture all improved to some degree. The results also showed that acupuncture may adjust FSH, LH, and E2 in two directions and raise the progesterone level, bringing them to normal. The animal experiments confirmed this result. Results showed that acupuncture may adjust endocrine function of the generative and physiologic axis of women, thus stimulating ovulation. The results of this research will provide some scientific basis for treating and further studying this disorder.

Auricular acupuncture in the treatment of female infertility.

Source: Gerhard I, Postneek F. Department for Gynecological Endocrinology and Reproduction, Women's Hospital, University of Heidelberg, Germany. *Gynecol Endocrinol.* 1992 Sep;6(3):171-81.

Following a complete gynecologic--endocrinologic workup, 45 infertile women suffering from oligoamenorrhea (n = 27) or luteal insufficiency (n = 18) were treated with auricular acupuncture. Results were compared to those of 45 women who received hormone treatment. Both groups were matched for age, duration of infertility, body mass index, previous pregnancies, menstrual cycle and tubal patency. Women treated with acupuncture had 22 pregnancies, 11 after acupuncture, four spontaneously, and seven after appropriate medication. Women treated with hormones had 20 pregnancies, five spontaneously, and 15 in response to therapy. Four women of each group had abortions. Endometriosis (normal menstrual cycles) was seen in 35% (38%) of the women of each group who failed to respond to therapy with pregnancy. Only 4% of the women who responded to acupuncture or hormone treatment with a pregnancy had endometriosis, and 7% had normal cycles. In addition, women who continued to be infertile after hormone therapy had higher body mass indices and testosterone values than the therapy responders from this group. Women who became pregnant after acupuncture suffered more often from menstrual abnormalities and luteal insufficiency with lower estrogen, thyrotropin (TSH) and dehydroepiandrosterone sulfate (DHEAS) concentrations than the women who achieved pregnancy after hormone treatment. Although the pregnancy rate was similar for both groups, eumenorrheic women treated with acupuncture had adnexitis, endometriosis, out-of-phase endometria and reduced postcoital tests more often than those receiving hormones. Twelve of the 27 women (44%) with menstrual irregularities remained infertile after therapy with acupuncture compared to 15 of the 27 (56%) controls treated with hormones, even though hormone disorders were more pronounced in the acupuncture group. Side-effects were observed only during hormone treatment. Various disorders of the autonomic nervous system normalized during acupuncture. Based on our data, auricular acupuncture seems to offer a valuable alternative therapy for female infertility due to hormone disorders.

Relationship between blood radioimmunoreactive beta-endorphin and hand skin temperature during the electro-acupuncture induction of ovulation.

Source: Chen BY, Yu J. Institute of Acupuncture Research, Shanghai Medical University, People's Republic of China. *Acupunct Electrother Res.* 1991;16(1-2):1-5.

Thirteen cycles of anovulation menstruation in 11 cases were treated with Electro-Acupuncture (EA) ovulation induction. In 6 of these cycles which showed ovulation, the hand skin temperature (HST) of these patients was increased after EA treatment. In the other 7 cycles ovulation was not induced. There were no regular changes in HST of 5 normal subjects. The level of radioimmunoreactive beta-endorphin (r beta-E) fluctuated, and returned to the preacupunctural level in 30 min. after withdrawal of needles in normal subjects. After EA, the level of blood r beta-E in cycles with ovulation declined or maintained the range of normal subjects. But the level of blood r beta-E in cycles in which the induction failed to cause ovulation was kept higher than that of normal. (P less than 0.05). There was a negative correlation in the decrease of blood r beta-E and increase of HST after EA ($r = 0.677$, P less than 0.01). EA is able to regulate the function of the hypothalamic-pituitary-ovarian axis. Since a good response is usually accompanied with the increase of HST, monitoring HST may provide a rough but simple method for predicting the curative effect of EA. The role of r beta-E in the mechanism of EA ovulation induction was discussed.