

TABLE THREE: Acupuncture and IVF outcome when performed during embryo transfer

Female Studies

Author, date	Study Design	Outcome Measured	Control Group (n)	Acupuncture Method and Timing (n)	Additional Information	Conclusion
Anderson <i>et al</i> , 2010	Prospective, randomised, controlled. Double blind.	Pregnancy and live birth rates.	ART patients receiving sham acupuncture (321).	ART patients receiving TCM acupuncture on day of acupuncture (314).	ONLY ABSTRACT AVAILABLE. Exact acupuncture timing unknown.	No significant difference on any variable.
Macaschi <i>et al</i> , 2010	Prospective, randomised. Non-blinded.	Pregnancy, implantation and abortion rates of ICSI patients.	ICSI patients receiving no acupuncture (208).	ICSI patients receiving TCM acupuncture pre- and post- embryo transfer in 25min sessions (208).	All patients <35 years. All acupuncture performed by same practitioner.	No significant difference on any variable. However, when patients with infertility caused by exclusively tubal-uterine or idiopathic were evaluated separately, a positive influence of acupuncture on pregnancy rates was seen, and a trend towards improved implantation. No effect on abortion rates
Margerelli <i>et al</i> , 2009	Prospective, randomised.	Serum cortisol and prolactin. Reproductive outcomes: endometrial thickness on hCG administration, oocytes retrieved, embryos transferred and frozen, fertilisation and implantation rates. Miscarriage and birth rates.	IVF patients receiving no acupuncture (33).	IVF patients receiving electro-acupuncture: 9 treatments before oocyte collection, one pre- and one post-embryo transfer (34)	N/A	Significantly different cortisol and prolactin levels in acupuncture group compared to controls; postulated to improve IVF by modulating stress responses. Clinical pregnancies and live birth rates were significantly higher in acupuncture group, miscarriage rate significantly lower.

Domar <i>et al</i> , 2009	Prospective, randomised, controlled. Single blind trial.	Clinical pregnancy, optimism and anxiety.	IVF patients laying still for 25mins before and after embryo transfer (68).	IVF patients receiving acupuncture for 25minutes before and after embryo transfer (78).	Mean age in both groups: 36.1 years.	No effect on pregnancy rates, but acupuncture group felt more optimistic and less anxious.
Johnson, 2006	Prospective. Non-blinded: case reports.	Pregnancy rates.	No direct controls but results compared to hospital's pregnancy rates in patients not receiving acupuncture over the study period (3 years),	IVF patients given an introductory session (10 mins) varying full sessions during IVF cycle (usually once weekly for 20 mins) and pre- and post- embryo transfer (10 mins). (22)	All patients were self-referred for acupuncture. Average age was 36.2 years. Sample number in control group unknown.	A non-significant increase in pregnancy rates (57.7% compared with 45.3%). Acupuncture group reported feelings of relaxation.
Westergaard <i>et al</i> , 2006	Prospective, randomised.	Clinical and ongoing pregnancy rates.	IVF/ICSI patients receiving no acupuncture (87).	Group 1: IVF/ICSI patients receiving acupuncture before and after embryo transfer (95). Group 2: As group 1 but also receiving a session 2 days later (91). All sessions lasted 25minutes.	All sessions performed by nurses, supervised by practitioners. Mean age was 37years.	Acupuncture on day of ET significantly improved all variables measured compared to controls. Performing additional acupuncture 2 days later did not improve pregnancy rates.
Smith <i>et al</i> , 2006	Prospective, randomised, controlled. Single blinded.	Clinical and ongoing pregnancy rates, adverse effects and health status.	IVF patients receiving noninvasive sham acupuncture on day 9 of stimulation, pre- and post-embryo transfer (118).	IVF patients receiving TCM acupuncture on day 9 of stimulation, pre- and post-embryo transfer (110).	All sessions performed by two practitioners. Mean age in control group: 36.1 years, treatment group: 35.9years.	A non-significant increase in pregnancy rates. Acupuncture deemed safe for use during embryo transfer.
Paulus <i>et al</i> , 2002	Prospective, randomised, controlled.	Clinical pregnancy	IVF/ICSI patients receiving no acupuncture (80).	IVF/ICSI patients receiving TCM acupuncture pre- and post-embryo transfer for 25 minutes (80).	All patients had good quality embryos prior to transfer. Control group mean age: 32.1 years, treatment group: 32.8 years.	Clinical pregnancy rate significantly improved in acupuncture group compared to control group.

