



## A Randomized Study Evaluating Acupuncture as an Adjunct to IVF

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**Background and Significance:** Acupuncture is based on patterns of energy flow (Qi) through a network of meridians. Maintenance of Qi is essential for health, while blockage may provoke disease. Acupuncture works by unblocking the various types of stagnation that can occur along these channels. After Paulus et. al demonstrated the benefit of acupuncture to IVF (Fertil Steril Apr 2002), many IVF centers began offering these services.

**Objective:** The purpose of this study was to determine if there are benefits of standard acupuncture compared to sham acupuncture as an adjunct to IVF.

**Materials and Methods:** A randomized, controlled, double-blind, cross-over pilot trial was performed using a needle-like device (sham acupuncture) as a control. Approval from GAMC's Investigational Review Board was acquired. Inclusion criteria were women aged 18 to 42 years with a history of failed IVF cycle(s); day 3 FSH  $\leq$ 20 IU/ml; the presence of both ovaries; and a normal uterine cavity. Exclusion criteria was Kruger morphology  $<$ 4%.

**Results:** Seventeen subjects were enrolled and seven subjects completed both arms of the study. The mean age was 36.2 years (range 28-41 years). The mean Day 3 FSH=6.8 IU (range 3-13 IU). There were four ongoing pregnancies after the first cycle, equally distributed. Seven subjects were crossed over after the first cycle. Of these, four from the standard acupuncture group and one from the sham acupuncture group attained pregnancy. Two subjects of the standard acupuncture group were on-going pregnancies and one from the sham group. Only the sham group had two IVF cancellations. An unpaired Mann-Whitney Test using a two-sided p value was performed.

|                                     | Sham Acupuncture | Standard Acupuncture |
|-------------------------------------|------------------|----------------------|
| <b>Oocytes retrieved</b>            | 11 $\pm$ 8.8     | 12 $\pm$ 7.3         |
| <b>Mature oocytes</b>               | 7.4 $\pm$ 5.5    | 8.7 $\pm$ 5.2        |
| <b>Normal Fertilization</b>         | 5.9 $\pm$ 3.9    | 7.5 $\pm$ 6.0        |
| <b>Amount of gonadotropins (IU)</b> | 5085 $\pm$ 1138  | 34000 $\pm$ 1413*    |
| <b>Endometrial thickness (mm)</b>   | 9.6 $\pm$ 3.4    | 12.2 $\pm$ 3.1       |
| <b>Embryos transferred</b>          | 2.8 $\pm$ 1.97   | 2.6 $\pm$ 1.31       |
| <b>Chemical pregnancies</b>         | 3                | 7                    |



|                             |   |   |
|-----------------------------|---|---|
| <b>Clinical pregnancies</b> | 3 | 6 |
| <b>Ongoing pregnancies</b>  | 3 | 4 |

\*statistically significant  $p < 0.05$

**Note:** results reported as mean  $\pm$ SD where applicable

**Conclusions:** Our study shows a significantly lower amount of gonadotropins used when IVF is combined with standard acupuncture. A 70% pregnancy rate was also achieved with standard acupuncture and IVF, compared to 25%. Larger prospective trials are necessary.