

Acupuncture May Improve Success Rate of Test-Tube Pregnancies

By Editorial Staff

Many couples who have difficulty conceiving a child by traditional methods often employ various techniques to assist them in the reproductive process. The most common assisted reproduction therapy is *in vitro* fertilization (IVF), in which a woman's eggs are harvested and fertilized with a man's sperm in a laboratory.

Embryos grown from the sperm and eggs are then chose to be transferred into the woman's uterus. In cases where a male's sperm count is extremely low, a different procedure known as intracytoplasmic sperm injection (ICSI) may be used.

Although assisted reproduction techniques like IVF and ICSI have been in use since the 1970s, they are still something of an inexact science. Success rates for each therapy range from as low as 1% to as high as 50%, and a successful pregnancy depends on a variety of factors, including the age of the woman, the cause of infertility, and the skill of the technician performing the procedure.

Two teams of researchers in Germany and the People's Republic of China have found that adding acupuncture to the treatment regimen of women using assisted reproductive techniques to have a child can dramatically improve the woman's chances of getting pregnant. Their findings, published in the April issue of *Fertility and Sterility*¹ and widely reported in the popular press, could bring new hope to thousands of couples who would like to have children but have been unable to do so.

A total of 160 women undergoing either IVF or ICSI were chosen for the study and randomly assigned to a control group or an acupuncture group. The average age of the patient and the cause of infertility were approximately the same for each group; only patients with good quality embryos were included in the study.

After sperm and eggs were acquired, a maximum of three embryos were transferred into each woman's uterus using established transfer procedures, with the same procedure used for every patient in both groups. The examiner who performed the embryo transfers was not told which group each patient belonged to.

Patients in both groups received hormone therapy before and after embryo transfer to increase the odds of a successful pregnancy. Patients in the acupuncture group also received two acupuncture sessions - the first treatment 25 minutes before embryo transfer, the second treatment 25 minutes after. Needles (stainless steel, 0.25 x 25 millimeters) were inserted at various point locations, with the *de qi* sensation obtained during the initial insertion. After 10 minutes, the needles were rotated to maintain *de qi*. The needles were left in position for a total of 25 minutes per treatment session, then removed. Needle depth varied from 10-20 millimeters depending on the region of the body being needled.

In addition to body points, the scientists used smaller needles (0.2 x 13 mm) for auricular acupuncture at ear points 55 (*shen men*), 58 (*zhi gong*), 22 (*nei fen mi*) and 34 (*nao dian*). Two needles were inserted in the right ear, the other two in the left ear, for a total of four needles. The needles remained in place for 25 minutes without being manipulated; after embryo transfer, the side of auricular acupuncture was changed.

Six weeks after the embryo transfers were performed, all of the women were given an ultrasound examination. In the control group, the presence of a fetal sac, the scientists' criteria for a clinical pregnancy, was found in 21 women (26.3%). In the acupuncture group, the pregnancy rate was "considerably higher" - 34 women (42.5%) were carrying a fetal sac at the time of examination.

"Acupuncture seems to be a useful tool" for patients looking to increase their chances of becoming pregnant following assisted reproduction therapy, the authors concluded. They added, "As we could not observe any significant differences in covariants between the acupuncture and control groups, the results demonstrate that acupuncture improves pregnancy rate."

The researchers believe point selection played a key role in acupuncture's success. "We chose acupuncture points that relax the uterus according to the principles of TCM," they wrote, adding that because of acupuncture's influence on the autonomic nervous system, needling specific points would "optimize endometrial receptivity."

A total of nine points were used on patients in the acupuncture group. Before embryo transfer, PC6 (*nei guan*), SP8 (*di ji*), LR3 (*tai chong*), GV20 (*bai hui*) and ST29 (*gui lai*) were used; after transfer, needles

were inserted at ST36 (*zu san li*), SP6 (*san yin jiao*), SP10 (*xue hai*) and LI4 (*he gu*).

Points on the spleen, stomach and colon meridians were chosen because of their ability to provide "better blood perfusion and more energy in the uterus"; PC6, LI20, GV20, and ear points 34 and 55 were used to sedate the patient; ear point 58 was used to "influence the uterus"; and ear point 22 was stimulated to stabilize the endocrine system.

As the main objective of the study was simply to determine whether acupuncture could increase pregnancy rate, the researchers stated that further research must be conducted "to demonstrate precisely how acupuncture causes physiologic changes in the uterus and the reproductive system." One future trial being considered will use a placebo needle to rule out any psychological or psychosomatic effects acupuncture may produce.

Scientific Community Embraces Results

Pregnancy and the birth of one's child are among the most exciting events an adult can experience. Unfortunately, for many people, attempting to have children can be a frustrating, expensive process, which more often results in failure than success.

"If these findings are confirmed, they may help us improve the odds for our IVF patients' achieving pregnancy," commented Dr. Sandra Carson, president-elect of the American Society of Reproductive Medicine, in a prepared statement.² *Fertility and Sterility* is one of several journals published by the Society.

Equally impressed with the study's outcome was Dr. Nancy Synderman, a board-certified surgeon/pediatrician and medical correspondent for the popular news/talk shows *Good Morning America* and *20/20*. In an interview with ABCNews.com, Synderman explained that a woman's uterus typically undergoes several contractions while an embryo is being transferred, which reduces the chances of successful implantation significantly.

For years, health care professionals have theorized that relaxing the uterus during embryo transfer could increase a woman's chances of becoming pregnant, but the proof of this theory has been lacking. The *Fertility and Sterility* study, Synderman feels, may have provided just the evidence the scientific community has been looking for.

"There is no doubt, because this was a very well-done study and it was reported in a very highly regarded medical journal, that doctors will sit up and pay attention to it," added Dr. Synderman. "This is the first time we may have had a serious marriage between an art and science that is so many, many years old, and what is really cutting-edge technology."³

References

1. Paulus W, et al. Influence of acupuncture on the pregnancy rate in patients who undergo assisted reproduction therapy. *Fertility and Sterility* April 2002;77(4):721-4.
 2. Acupuncture may help fertility treatment, study finds. Reuters, April 17, 2002.
 3. Pins and needles. Could acupuncture help promote pregnancy? ABCNews.com, April 16, 2002. Available on line at <http://more.abcnews.go.com/sections/gma/healthywoman/gma020416accupuncture.html>.
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Editor's note: *Acupuncture Today* attempted to contact Dr. Wolfgang Paulus, the lead author of the study, for a clarification regarding the ear acupuncture points mentioned in the study. E-mail messages sent to Dr. Paulus were not returned at press time.



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