

# Study Questions Benefit of Acupuncture in IVF

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WASHINGTON — Acupuncture performed on site before and after embryo transfer has been shown to improve in vitro fertilization success rates in patients with good-quality embryos, but the same finding did not hold true in a recent study conducted in a “real world” setting, in which acupuncture was associated with a reduced success rate, Dr. LaTasha B. Craig reported at the annual meeting of the American Society for Reproductive Medicine.

In a 2002 landmark study by Paulus et al. showing a benefit with acupuncture in patients undergoing IVF (*Fertil. Steril.* 2002;77:721-4), acupuncture was associated with increased pregnancy rates in 80 treated patients, compared with 80 controls who received no treatment (43% vs. 26% pregnancy rates in the groups, respectively).

But that study, which was conducted in Germany, included only patients with good-quality embryos, and involved on-site acupuncture treatments, which aren't typically available at IVF centers in the United States, Dr. Craig, of the University of Oklahoma, Oklahoma City, explained in an interview.

For her study (prompted by curiosity about whether the benefits of acupuncture in IVF patients would hold up in this country, where pregnancy rates with IVF are higher than in Germany) 113 women were randomized

to undergo acupuncture using a modified Paulus protocol (involving two additional acupoints) for 25 minutes before and after embryo transfer by one of two licensed acupuncturists at an off-site location or to receive no intervention before or after embryo transfer.

Patients were included in the study regardless of embryo quality.

Acupuncture in her study, which was conducted in Seattle while she was with the University of Washington, was associated with lower clinical and live birth pregnancy rates, compared with no intervention (46% vs. 72%, and 39% vs. 65%, respectively).

Clinical pregnancy was defined as a positive fetal heart rate on ultrasound at 6-7 weeks' gestation.

Live birth delivery was defined as delivery at 24 weeks or greater.

Patients in the treatment and control groups were statistically similar in regard to age, peak estradiol level, number of oocytes retrieved, fertilization method and rate, number of embryos transferred, and the proportion of blastocyst transfer, she noted.

“I expected to find no difference between the groups—not a reversal of the Paulus findings,” she said during the interview.

The fact that patients traveled to and from the IVF center in busy Seattle traffic for the acupuncture, thus pos-

sibly increasing stress levels and negating the effects of the acupuncture, may prove to be an important factor in her findings, she commented.

Of note, there were three studies of acupuncture and IVF in 2006, with two of the three showing a benefit with acupuncture, and one showing no difference.

“Now mine shows possible detriment [with acupuncture],” she said, adding that the conflicting findings suggest additional study is needed.

However, acupuncture can be very difficult to study, in part because of the lack of a good acupuncture control method.

“My belief is that acupuncture 1-2 times a week leading up to IVF is probably going to prove more effective than just providing acupuncture the day of the embryo transfer,” she added.

That's because the theory behind traditional Chinese acupuncture methods is whole-person medicine. They don't effect a change in 1 day, and the idea that every patient would be treated the same way goes against their basic training, she explained.

Dr. Craig is working to obtain funding to begin a study at the University of Oklahoma. The ideal study would compare on-site acupuncture before and after embryo transfer, off-site acupuncture before and after embryo transfer, and no treatment, she said. ■

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## Savings of \$10,000 per Delivery

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by six IVF cycles. Couples in the conventional treatment arm underwent a total of 1,346 cycles (646 clomiphene/IUI, 439 FSH/IUI, and 261 IVF). Those in the accelerated arm underwent a total 1,009 cycles (648 clomiphene/IUI and 361 IVF).

Overall, 76% of all patients had a sustained pregnancy during the course of the study. In the conventional arm, 45 women (19%) became pregnant during a clomiphene/IUI cycle; 43 (25%) during an FSH/IUI cycle; and 73 (66%) during an IVF cycle. In the accelerated arm, 53 women (22%) became pregnant during a clomiphene/IUI cycle and 118 (69%) during an IVF cycle. There were 52 treatment-independent pregnancies.

“Skipping the FSH/IUI step allowed couples to become pregnant significantly sooner and at an estimated lower cost,” Dr. Reindollar said. The average charge per delivery for a child born to couples in the accelerated treatment arm was \$61,500, compared with \$71,400 for each baby born in the conventional treatment arm—a

\$10,000 savings. The final cost included all maternal inpatient, outpatient, and medication charges, and all infant charges incurred during the delivery hospitalization.

The study demonstrates several interesting factors, Dr. Reindollar noted. “First, we can conclude that contemporary treatments for infertility are highly successful, with 76% of our couples having a sustained pregnancy during the course of the study that for the most part included delivered babies and a small proportion that were ongoing.”

However, he said, the study shows that the traditional method of including FSH/IUI in treatment for couples with unexplained infertility does not appear to provide a benefit over moving from clomiphene/IUI directly to IVF for women younger than 40 years.

“When you eliminate FSH/IUI as part of treatment, you get the same number of pregnancies, but at a faster rate, with fewer treatment cycles, and at an estimated cost savings,” Dr. Reindollar said. ■

## Groups' PGS Statements Clash

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embryos, according to the ASRM/SART opinion.

The document notes that the “evidence does not support the use of PGS as currently performed to improve live-birth rates in patients with advanced maternal age, previous implantation failure, and those with recurrent pregnancy loss,” including loss related to aneuploidy.

The opinion drew criticism from the Preimplantation Genetic Diagnosis International Society (PGDIS), which released a statement noting “careful analysis and abundant data support that in experienced hands ... PGS is unequivocally beneficial in patients suffering from translocations, repeated spontaneous abortions, and often in advanced maternal age.”

During the press conference, Dr. Schattman acknowledged that “certain centers report improvements” in pregnancy rates when PGS is used, but he added, “If there is a technique that can only be done at a single center and cannot be replicated, is it really a valid test?”

Dr. Joe Leigh Simpson, president of the PGDIS, said in an interview that PGS is a demanding procedure, and not every IVF center has sufficient experience in the technique.

In fact, he said, only 15-20 centers in the United States have sufficient experience performing the test. “This is hardly a condemnation of the technique any more than it is of other ... complicated procedures for surgery. That is the way of modern sophisticated medicine,” said Dr. Simpson, executive associate dean for academic affairs at Florida International University College of Medicine, Miami.

The PGDIS statement also criticized the literature review conducted by the ASRM/SART committees in writing their opinion.

“The ASRM opinions have taken into consideration neither contemporary literature nor facts that could have been provided by embryologists, geneticists and laboratories responsible for over 90 percent of these test[s] worldwide,” it said.

The ASRM/SART document, which includes 39 footnoted references, was based on “the best available evidence,” according to Dr. Schattman.

The ASRM/SART committees also examined preimplantation genetic diagnosis (PGD), which involves testing the genetic material of embryos to look for specific genetic mutations or chromosomal rearrangements.

According to the opinion, “for couples known to be at risk for having children with a heritable and debilitating genetic disease, IVF with PGD represents a major scientific advance.” However, the ASRM/SART opinion also noted that prenatal diagnostic testing to confirm the results of PGD is encouraged strongly because the methods used for PGD have technical limitations.

The document, titled “Preimplantation Genetic Testing: A Practice Committee Opinion,” is in press and will be published in the journal *Fertility and Sterility*.

The ASRM/SART opinion includes a disclosure statement indicating that Dr. Schattman is on the medical advisory boards of TAP, Theralogix, and Femasys. Dr. Simpson said that he had no relevant financial conflicts of interest to disclose. ■

### MEETING COVERAGE

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