Minimal Stimulation

The Future of IVF?
By Kelly Burgess

It sounds too good to be true: IVF without painful injections, debilitating side effects, multiple births or the dilemma of how to deal with leftover embryos. The good news is that this technology exists: it's called minimal stimulation in vitro fertilization (MS IVF), and it's been in use for some time in countries such as Japan and The Netherlands. The bad news is that in America, it may be a while before the competitive, market-based infertility industry makes MS IVF a viable and easily obtainable alternative to traditional in vitro fertilization (IVF).

MS IVF vs. Traditional IVF
IVF is a fairly straightforward procedure that was originally developed to help women with tubal damage conceive. In IVF, the woman’s egg is harvested, brought together with the sperm in a Petri dish for fertilization, and the embryo is then transferred to the woman’s uterus. Ideally, implantation occurs and the pregnancy proceeds to a live birth.

Because fertilization and implantation don't always occur, the focus on IVF is to produce as many eggs as possible in each cycle, thus increasing the possibility of having sufficient eggs for fertilization and implantation. There are several drawbacks to this approach, including an increased risk of multiple pregnancies, the side-effects from the powerful drugs used to stimulate ovulation and the moral/ethical implications of leftover embryos. Traditional IVF is also expensive, averaging $12,400 per procedure, according to the American Society for Reproductive Medicine. A large part of that expense is due to the high cost of the injectible fertility drugs.

The reason people make the physical, financial and emotional investment is the undisputed fact that IVF helps many women achieve pregnancy every year. There is a great deal of controversy over the manner in which fertility clinics compute and report their success rates, but the Centers for Disease Control reports that in 2003, the most recent year full data is available, the success rate of IVF can be as high as 37 percent in women younger than 35.
By contrast, Dr. John J. Zhang of New Hope Fertility Center says the typical cost for one cycle of MS IVF is $4,800. Because with MS IVF the woman takes only the relatively inexpensive oral fertility drug clomiphene citrate, the cost is much less and the side effects are negligible. Fewer eggs are produced – usually only one or two – but Dr. Zhang theorizes that egg quality is also improved because of the gentler approach to ovulation stimulation. He also says that this particular procedure relies on more meticulous work by the physician. Dr. Zhang claims success rates close to those of traditional IVF, but his data has not yet been independently verified and published in a peer reviewed journal.

"I actually modified this technique from my colleagues in Japan; they've been doing this for 10 years," says Dr. Zhang. "It's also common in European countries such as Denmark, Sweden, Belgium and The Netherlands."

**IVF in America**

Dr. Mark Leondires, medical director for Reproductive Medicine Associates of Connecticut, would like to think that minimal stimulation is the wave of the future. Unfortunately, the realities of the American market don't make it feasible for most clinics at this time, because the focus is profit, and profit comes from high success rates.

"In the countries where they've been doing [minimal stimulation IVF] for a while, it's generally covered by insurance, so there's a lot less pressure to get more eggs," says Dr. Leondires. "But the fact is that the best clinics in Europe can't hold a candle to us. They'll tolerate a 45 percent success rate; we're shooting for 60 percent."

Since in America IVF often is not covered by insurance, or only covered on a limited basis, Dr. Leondires says that patients want more bang for their buck. They'll shy away from a procedure that generates only one or two eggs – thus only one or two chances at pregnancy – over a procedure that may allow them to harvest enough eggs for several IVF attempts. There's also no proof yet that the more gentle stimulation guarantees better quality eggs.

At this point the reality is that MS IVF has a lower success rate than traditional IVF and every failed attempt lowers a clinic's success rate. Right or wrong, patients pick a clinic based upon that rate. These patients don't generally care if the reason it's low is because their procedures are different; they just want a baby. As a result, most clinics don't offer MS IVF at all. Those that do have strict criteria to maximize the chances of success.

Dr. Leondires says he and his colleagues in the field of infertility don't work in a moral or ethical vacuum. He personally stresses when he gets 15 to 25 eggs and only three of them are good, he worries: Did he overmedicate? Is there something else he missed? Then he looks at the other side, which is that he got three good eggs. There's no guarantee that would have happened with MS IVF.

**An MS IVF Success Story**

After Christine Leach of New York, N.Y., conceived her first child via intrauterine insemination (IUI), she underwent four unsuccessful IUI procedures with her regular obstetrician in an effort to conceive a second child. Her doctor then referred her to New Hope Fertility Center where she underwent several unsuccessful IVF treatments. Traditional IVF treatments usually produce an average of 15 eggs; Leach produced only one poor-quality egg. Seeing those results, Dr. Zhang suggested
that they try minimal stimulation IVF. His reasoning was that she was producing few eggs anyway; they may be able to improve the quality with fewer drugs.

Dr. Zhang's instincts were correct and Leach gave birth to Ashton on Valentine's Day. She credits the more gentle approach with her ability to conceive. "I felt like I was in a science experiment when I was going through traditional IVF," says Leach. "It was very stressful, and I felt terrible from the injections. The minimal stimulation therapy followed my natural cycle more closely, and I felt more like myself."

Leach's speculation that the reduced emotional and physical stress of MS IVF is intriguing in light of recent research on the effects of stress and stress reduction on infertility and pregnancy rates. It also points out what Dr. Leonidès says is the best result of Dr. Zhang's research, which is the movement toward personalization of treatment for infertile patients. For some, this would mean MS IFV; for others, it would still mean traditional IVF or perhaps some other procedure. Ultimately, this ability to personalize treatment would save time and money, control the problem of unnecessary embryos and result in greater success rates for everyone.