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The Tube and Uterus on ART Outcome the Clinical Aspects

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Today, one out of every 100 babies delivered in the United States was helped by IVF. The average delivery per cycle is approximately 30%, and this has not changed significantly over the past eight years. Since 1984, the data collected by the Society for Assisted Reproductive Technology (SART) and the Center for Disease Control and Prevention (CDC) clearly showed the main factors contributing to IVF success are:

1. Maternal age,
2. The IVF lab (culture conditions), and
3. The number of embryos transferred.

Besides embryo quality, it been estimated the fallopian tubes and the uterus also contribute to approximately 10-20% of the overall success rate.

Tubal disease is one of the primary indications for IVF, and the incidence of hydrosalpinx accounts for 10 to 30% of tubal factor IVF cases. The negative impact of hydrosalpinx on IVF success was not recognized until the early 1990's. It is difficult to compare results between studies; but the overall results have consistently showed an adverse effect of hydrosalpinx on IVF success. Both retrospective as well as randomized prospective studies have reported this negative association. Over the past decade, there has been a greater focus on how hydrosalpinx affects IVF success, and whether the diagnosis "hydrosalpinx" is significant with every IVF patient that has tubal disease.

This lecture will focus the questions:

"Is there a best method for treating hydrosalpinx before IVF?"

"Which patients would benefit from surgery before IVF?"

Implantation is a series of complex events, and the ability to assess uterine receptivity is limited to measuring endometrial thickness, and/or performing an endometrial biopsy in an egg donor cycle. Some have advocated routine evaluation of the uterine cavity prior to IVF with hysterosalpingogram, sonohysterogram, or hysteroscopy.

Most practitioners would agree that submucous myomas that distort the uterine cavity will adversely affect implantation. Patients with prior DES exposure in utero have a significant decrease success with IVF. Also, patients with Mullerian anomalies have a more difficult time conceiving and maintaining a pregnancy. The question that remains, is it the shape or the size of the cavity that is affecting the ability to conceive in these patients? With the advent of 3D ultrasound, it is now possible to measure uterine cavity volume. Recent data suggest that IVF pregnancy and implantation rates are significantly lower in patients with an endometrial volume less than 2 ml, and there was no pregnancy found with a volume of less than 1 ml.
