Managing Infertile Women With Endometriosis

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CALGARY, ALTA. — Infertility is a common symptom of women who present with endometriosis. In fact, the American Society for Reproductive Medicine estimates that 30%-50% of women with endometriosis are infertile.

At the annual meeting of the Society of Obstetricians and Gynaecologists of Canada, Dr. Allison Case discussed the common causes of infertility in women with endometriosis. They include the following:

► **Distorted pelvic anatomy.** "We know from laparoscopy that major pelvic adhesions impair tubal function," said Dr. Case, medical director of the ARTUS Fertility Center at the University of Saskatchewan, Saskatoon. "They impair the release of the oocyte and the ability to pick up or transport the oocyte."

► **Altered peritoneal function.** Clinical studies have demonstrated that women with endometriosis have increased volume of peritoneal fluid, increased concentration of activated macrophages, and increased peritoneal concentrations of prostaglandins, interleukin-1, tumor necrosis factor, and proteases.

In addition, the peritoneal fluid captures what Dr. Case termed an "ovum capture inhibitor" that prevents normal interaction between the cumulus and the fimbria. These alterations have adverse effects on egg, sperm, embryo, or fallopian tube function.

► **Altered hormonal and cell-mediated function.** Increased IgG and lymphocytes in the endometrium "may alter endometrial receptivity and embryo implantation," she said.

► **Endocrine and ovulatory abnormalities.** Women with endometriosis are more likely to have luteinized unruptured follicle syndrome, luteal phase dysfunction, abnormal follicular growth, and premature and/or multiple luteinizing hormone surges.

► **Impaired implantation.** "This is an area we're going to hear a lot more about," said Dr. Case, who is also with the department of obstetrics, gynecology, and reproductive sciences at the university. "The hypothesis is that functional disorders of endometrium may predispose women to the development of endometriosis, but may also impair implantation mechanisms in affected women."

In 2006, the ASRM Practice Committee concluded that there is no evidence that medical treatment of endometriosis improves fecundity (Fertil. Steril. 2006; 86[suppl. 4]:S156-60). Neither is there evidence that a combination of medical and surgical treatment significantly enhances fertility.

However, a Cochrane review of combined data demonstrated an increased ongoing pregnancy and live birth rate in women who underwent surgery for endometriosis-associated infertility (Cochrane Database Syst. Rev. 2002;CD001398 [doi: 10.1002/14651858.CD001398]). The odds ratio was 1.64, and the number needed to treat was 12.

Another area of study concerns the removal of endometriomas, Dr. Case said. Specifically, does an endometrioma affect the response to stimulation or chance of success with infertility treatment? Conversely, does removal of the endometrioma have a positive or negative effect on treatment?

In a case-control study of 189 women with endometriomas, 133 underwent cystectomy prior to in vitro fertilization (IVF) and 56 went directly to IVF (Fertil. Steril. 2004; 81:1194-7). The researchers found that there was no difference in IVF outcomes between the two groups.

"A significant finding was that patients who had undergone surgery required a higher FSH dose, which raises the question: When we do surgery, are we compromising ovarian reserve in these patients?" Dr. Case said. "When you remove an endometrioma from the ovary, it's very difficult to get clean planes between the endometrioma and the rest of the ovary."

Results from this study and two others related to ovarian surgery for endometriosis "emphasize the importance of cautious technique, an experienced operator, and meticulous hemostasis," Dr. Case said.

She recommends limiting surgical treatment to symptomatic women.

"Expectant management is unlikely to be successful," she said. "IVF is the most effective therapy, although success may be lower than in women with other causes of infertility."

Dr. Case stated that she had no relevant disclosures to make. ■