

## **WHAT SHOULD BE DONE WITH ENDOMETRIOMAS IN ART?**

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It is estimated that 10-25% of all patients undergoing ART are diagnosed with endometriosis, and nearly half of those also have ovarian endometriomas. Several investigators have reported on significantly decreased IVF pregnancy rates among patients suffering from endometriosis. Endometriosis embodies a spectrum of effects where there appears to be a correlate with outcome and disease burden; more advanced disease (Stage III/IV) with the presence of endometriomas worsens IVF prognosis.

Despite the fact that conservative surgery by laparoscopy remains the most effective treatment for ovarian endometriomas, there is no strong data on the effectiveness of surgery for endometriomas on the IVF success rate. One needs to be cautious since several retrospective studies have reported reduced responses to gonadotropins after cystectomy for ovarian endometriomas. These reports suggest that at least some of the adverse effects of endometriomas on fertility outcomes are secondary to surgical interventions rather than the endometrioma itself. Recent prospective studies reveal that, while laparoscopic cystectomy for ovarian endometriosis performed by experienced surgeons does not compromise the number or quality of oocytes obtained with controlled ovarian hyperstimulation, it does not offer any additional benefit in terms of fertility outcomes. Meanwhile, the significance of the size of the endometrioma on treatment outcome was not addressed in most of the studies. Surgery may be necessary in asymptomatic but large endometriomas to ease the access to the follicles and to decrease the risk of pelvic infection at the time of oocytes retrieval. Therefore, proceeding directly to ART in asymptomatic women with ovarian endometriomas 3 cm or smaller may reduce the time to pregnancy, would diminish patient costs, and might avoid the potential complications of surgery. Alternatively, symptomatic women with ovarian endometriomas or endometriomas larger than 4 cm in diameter might be advised that conservative ovarian surgery performed by experienced surgeons does not impair IVF success rates.

Some studies reported that long-term (minimum of 3 consecutive months) treatment with GnRH agonists before IVF may increase fertility rates in advanced-stage disease by means of increased numbers of retrieved oocytes and transferred embryos, higher implantation and pregnancy rates, and fewer preclinical abortions. Although these studies did not specifically investigate only women with endometriomas, participants were of advanced-stage endometriosis, which the majority should have endometriomas. Therefore, prolonged GnRH agonist treatment prior to IVF should also be considered in moderate-severe endometriosis, especially in women with history of previous failed IVF cycles, as it has been associated with increased pregnancy rates.

In conclusion, the management of endometriomas in women undergoing IVF remains relatively controversial. All the therapeutic options, including medical and surgical options, and their advantages and risks should be discussed with the patient. The best approach would be the one individualized for each patient's specific findings, history, symptoms, and expectations.