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ENDOMETRIOMA: OVARIAN RESERVE AND MANAGEMENT TACTICS

Sheralieva Sayyora Joraboevna
Research advisor: ***Asrankulova Dilorom Bakhtiyarovna***
Head of the 1st department of obstetrics and gynecology,
doctor of medical sciences, professor

Abstract: Endometriosis remains one of the most pressing problems in the practice of an obstetrician-gynecologist and affects about 10% of women of reproductive age. The most common form of the disease is ovarian endometrioma, accounting for 17 to 44% of cases. Ovarian endometrioma is a common cause of infertility, distorting the anatomy of a woman's pelvis, changing hormonal and cellular function, and also leads to endocrine and ovulatory disorders, altered quality of oocytes and embryos. It is known that the presence of endometrioma as such, and not just surgical treatment, can lead to reduced ovarian reserve. The review article presents modern methods of managing patients with ovarian endometrioma, aimed at preserving reproductive potential.
Keywords: endometriosis, endometrioma, ovarian reserve, cystectomy, ART.

INTRODUCTION

Endometriosis is a chronic disease affecting 5-10% of fertile women. The disease is characterized by the presence of endometriotic tissue (glands and stroma) outside the uterine cavity, which causes a chronic inflammatory response, tissue scarring and adhesions that disrupt the anatomy of the woman's pelvis. About 25-50% of women with infertility have endometriosis, and 30-50% of women with endometriosis have infertility [1, 2]. Endometriosis primarily affects the ovaries and fallopian tubes, but other organs or structures of the pelvis and abdomen are also susceptible to implantation of endometriotic cells. The most common form of the disease is ovarian endometrioma, which accounts for 17 to 44% of cases [3]. It is one of the most common benign lesions in gynecology [4].

MATERIALS AND METHODS

Endometriomas are ovarian cysts containing ectopic endometrial tissue. Their impact on fertility and the results of assisted reproductive technologies are still not fully understood [2]. Mechanisms linking endometriosis, particularly endometriomas, and infertility include distorted pelvic anatomy, altered peritoneal function, endocrine and ovulatory dysfunction, impaired implantation, reduced quality of oocytes and embryos, and abnormal reduction and impairment patency of the fallopian tubes [3].

RESULTS AND DISCUSSION

The concept of ovarian reserve is currently defined as the quantity and quality of follicles present in the ovary at any given time. A number of research methods have been proposed to assess ovarian reserve: endocrinological, ultrasonographic, histological. However, the accuracy of ovarian reserve testing to measure the quality and quantity of primary follicles is still unclear [1]. Serum follicle-stimulating hormone and estradiol levels in the early follicular phase (i.e., days 2–4 of the menstrual cycle) have long been used by clinicians as markers of ovarian reserve, although the diagnostic value of this test is limited. Anti-Mullerian hormone (AMH) is predominantly produced by granulosa cells of preantral and early antral follicles until they become sensitive to gonadotropin. Currently, the level of this hormone has become very popular for predicting ovarian reserve.

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Recently, concerns have been raised regarding the possibility that surgical excision of endometriomas may reduce ovarian reserve. However, ovarian endometrioma itself reduces AMH levels, negatively affecting healthy ovarian tissue [2]. A recent meta-analysis by L. Muzii et al., assessing the number of antral follicles as a marker of ovarian reserve before and after surgical removal of endometriomas, showed that patients with monolateral endometriomas had a lower number of antral follicles in the area with an unoperated cyst compared with contralateral healthy ovary [3]. These data are confirmed by two other studies conducted by M. Kitajima et al.. Both studies collected biopsies to assess follicular density and atresia greater than 1 cm from the endometrioma on macroscopically healthy ovarian cortex. The first publication reported that the density of follicles in the ovary in which the endometrioma is located is significantly lower than in the contralateral undamaged ovary [2]. In the second study, the authors concluded that the proportion of atretic follicles was 20.3% in ovaries with endometriomas compared to 6.3% in contralateral ovaries without endometriomas [3].

Thus, the presence of endometrioma as such, regardless of its surgical removal, is associated with damage to ovarian tissue. It can be assumed that markers of ovarian reserve, such as AMH, may be lower in patients with endometriomas than in patients with other benign cysts or with healthy ovaries.

The authors of a systematic review and meta-analysis from the Sapienza University of Rome reported a significant reduction in AMH levels even in the absence of surgery in patients with ovarian endometriomas compared with AMH levels in patients without endometrioma, or in patients with non-endometrioid ovarian cysts, or in patients without ovarian pathology [2]. Because the reduction in AMH levels in patients with endometriomas is significant compared with that in patients with other ovarian cysts, this reduction does not appear to be caused by mechanical stretching of the surrounding ovarian tissue due to the mere presence of the cyst.

CONCLUSION

Based on the data obtained, we concluded: the tactics of managing patients to treat or overcome infertility should be based on individual characteristics, such as cyst size, access to follicles, ovarian reserve, age, previous operations on the appendages and symptoms. Clinicians are recommended to inform patients about all possible risks associated with a decrease in ovarian reserve. Assisted reproductive technologies may be a better treatment for infertility associated with ovarian endometrioma than cystectomy. However, further research is needed to obtain a more convincing evidence base on the treatment of infertility in ovarian endometriomas.

REFERENCES:

1. Adamyan L, Starodubtseva N, Borisova A, Stepanian A, Differentiation of Ectopic and Eutopic Endometrium in Patients with Endometriosis. Journal of Minimally Invasive Gynecology. 2018 March 01;25(3):426-433. Published: September 06, 2017.
2. Nickkho-Amiry M, Savant R, Majumder K, Edi-O'sagie E, Akhtar M. The effect of surgical management of endometrioma on the IVF/ICSI outcomes when compared with no treatment? A sys- tematic review and meta-analysis. Archives of Gynecology and Ob- stetrics. 2018;297(4):1043-1057. https://doi.org/10.1007/s00404-017-4640-1
3. Deckers P, Ribeiro SC, Simões RDS, Miyahara CBDF, Baracat EC. Systematic review and meta-analysis of the effect of bipolar electro- coagulation during laparoscopic ovarian endometrioma stripping on ovarian reserve. International Journal of Gynaecology and Obstetrics. 2018;140(1):11-17. https://doi.org/10.1002/ijgo.12338

4. Tao X, Chen L, Ge S, Cai L. Weigh the pros and cons to ovarian re- serve before stripping ovarian endometriomas prior to IVF/ICSI: A meta-analysis. PLoS One. 2017;12(6):e0177426. https://doi.org/10.1371/journal.pone.0177426