The Impact of Endometriosis and Its Treatment on Ovarian Reserve

Gürkan Uncu MD, Prof
Head, Division of REI, Uludağ University
President, Turkish Society Of Reproductive Medicine

- Endometriosis is a chronic disease mostly affecting women at reproductive age. Endometriosis is estimated to affect around 2% of reproductive aged women.
- Ovarian endometriomas are present in 40% of women with endometriosis.
- Although a causal relationship between the endometriosis and infertility has not been clearly proven, infertility is regarded a major symptom of endometriosis. However, exact mechanisms are unknown. Some evidence suggests an adverse effect on oocytes.
- The disease can affect fertility by altering tuba-ovarian function, gamete transportation, endometrial receptivity, and inducing inflammatory features within the peritoneal fluid leading to alteration in sperm quality and function.
- Oocyte donation studies suggest an adverse effect on oocytes rather than endometrial receptivity.
- In addition to a qualitative effect on oocytes, a quantitative decline in ovarian reserve has also been a concern for women with endometriosis.
- Endometriosis and its surgical treatment can affect quantitative ovarian reserve as well. In the presence of endometriomas, serum level of anti-Müllerian hormone (AMH) seems a more reliable marker of ovarian reserve than antral follicle count.
- Women with endometrioma have decreased serum AMH levels as compared with healthy controls. This is further declined after surgical excision, and the decline seems permanent.
- Bipolar cauterization of the ovary seems to be playing a role on ovarian damage.
- Extraovarian endometriosis and its surgical treatment can also be associated with decreased ovarian reserve, but there is limited information.
- Patients with endometriosis should be informed about fertility preservation options, especially in the presence of bilateral endometriomas or prior to surgery.