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Fertility Preservation Society of India

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Borderline Ovarian Tumor and Fertility

Key Message: BOTs occur in young women necessitating fertility preservation in many of them. Current evidence shows that conservative surgery (unilateral salpingo-oophorectomy) with steps included for appropriate staging, is the treatment of choice in women who wish to have children. It serves as a curative treatment and in addition offers the opportunity for fertility preservation. However, it is imperative that such women are followed up for long periods, up to ten years for early detection of any tumour recurrence.

Borderline ovarian tumors (BOT) differ from epithelial ovarian cancer by their low incidence, frequent association with infertility, low association with mutations in BCRA genes, different percentages of the most common histological types, early stage diagnosis, and high survival rate, even when associated with peritoneal involvement. Most of the BOTs, like carcinomas, are serous tumors, accounting for about 53–65%. Mucinous BOT constitutes between 32% and 42% of the total, compared with less than 10% of mucinous ovarian carcinomas. The rest of the BOTs (less than 5%) are composed of endometrial tumors, clear-cell tumors, Brenner's tumors, and other unique histologies. They occur in younger women, which is why one of the objectives in these patients will be the preservation of fertility.

Maintenance of future fertility in women with malignant diseases, especially cancers occurring in the reproductive organs is challenging emotionally and financially. There is a recent trend among women of reproductive age towards delaying pregnancy. Increasing number of these women may request preservation of their future fertility when diagnosed with a malignancy. Since organ-preserving treatment can be used in the management of early-stage cancers of the reproductive organs in women, less invasive tumors such as BOT are good candidates for conservative treatment. Cystectomy may have a better chance of preserving a woman's fertility than adnexectomy (oophorectomy), because of the removal of less ovarian tissue. BOT However, BOT cannot be considered completely benign, and although rare, there is a consistent percentage of tumor recurrence .

The 5-year survival for Stage-I and Stage II-III borderline ovarian tumors is about 95-97% and 65-87%, respectively. The 10-year survival for Stage I borderline ovarian tumors is reported to range from 70-95%. Therefore, the question “how should these patients be treated?” is raised. Tsai et al studied 61 women with borderline ovarian tumor, and found that no patients treated with radical surgery had recurrence during the mean follow-up period of 56 months. In contrast, more than 20% of patients who underwent fertility-sparing surgery developed tumor recurrence within 10-56 months, with a median of 25.1 months.

Tsai et al further analyzed these 7 patients with recurrent diseases and found that up to two-thirds (n =5) were treated with cystectomy alone. The authors concluded that unilateral salpingo-oophorectomy (USO) must be considered as the first choice. Almost all patients (96.7%) in the radical surgery group and half of the patients (48.4%) in the fertility-sparing surgery group in Tsai’s report underwent lymphadenectomy. Neither univariate analysis for disease-free survival nor multivariate analysis showed any significant value for lymphadenectomy in the management of women with borderline ovarian tumors. Current evidence shows a limited or lack of value of lymphadenectomy for early-stage borderline ovarian tumors although this procedure is still often performed during the complete staging surgery.

A recent systematic review concluded USO as the treatment of choice for fertility preservation in young women with BOT but highlighted the need for long term follow up for at least 10 years to avoid overuse of radical surgery.

What was once impossible is currently within reach for women with malignant diseases. Further growth in the field of fertility preservation requires awareness and coordination within various specialties of medicine.

