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Interpret the Role of Gnrh Agonist from Clinical Trial into Local Practice in Early Breast Cancer

Ming-Yang Wang, M.D., Ph.D.

Background: Previous studies provided inconclusive evidence for the effectiveness of gonadotropin-releasing hormone analogue on ovarian function protection against chemotherapy-induced genotoxicity in premenopausal patients. This study was designed to examine the efficacy of leuprolide acetate on ovarian function preservation in patients with breast cancer. A total of 220 patients were recruited in this prospective clinical trial and were assigned randomly to receive cyclophosphamide-doxorubicin-based chemotherapy only or chemotherapy plus leuprolide acetate. Resumption of menses or premenopausal levels of both follicle-stimulating hormone (FSH) and estradiol (E 2) within 12 months after the end of chemotherapy were considered as effective ovarian preservation. A total of 183 patients were considered evaluable (94 in chemotherapy-only group and 89 in chemotherapy plus leuprolide acetate group). At the end of follow-up, 27 patients in chemotherapy group and 15 in chemotherapy plus leuprolide acetate group resumed menses; seven patients in chemotherapy group and 14 in chemotherapy plus leuprolide acetate group restored premenopausal levels of FSH and E 2. The median time to resume menses was 9.2 months for patients in chemotherapy plus leuprolide acetate group and was not reached in chemotherapy-only group. In addition, our results demonstrated that age and chemotherapy doses made no significant difference in the occurrence of premature menopause. The leuprolide acetate treatment simultaneously with cyclophosphamide-doxorubicin-based chemotherapy reduced the risk of developing premature menopause in premenopausal patients with breast cancer.