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The Effect of Menstrual Cycle Phase on the Prognostic Factors in Patients with Premenopausal Breast Tumors

Berrin Papila Kundaktepe[1], Sinem Durmus[2], Cigdem Papila[3], Mehmet Velidedeoglu[1], Remise Gelisgen[2], Hafize Uzun[2]
[1]Department of General Surgery, Cerrahpasa Medical Faculty, Istanbul University-Cerrahpasa, Istanbul, Turkey
[2]Department of Medical Biochemistry, Cerrahpasa Medical Faculty, Istanbul University-Cerrahpasa, Istanbul, Turkey
[3]Department of Internal Medicine, Division of Oncology, Cerrahpasa Medical Faculty, Istanbul University-Cerrahpasa, Istanbul, Turkey

Abstract

Background: Estrogen receptor and progesterone receptor positivity and c-erbB2 gene expression levels are important in determining breast cancer development and aggression. Although the importance of hormonal factors in tumor cell proliferation, migration and differentiation is increasing, it needs more evidence. The effect of BC surgery timing during the menstrual cycle on prognosis remains controversial. In order to clarify this hypothesis, we aimed to determine the importance of adjusting the timing of surgery according to the menstrual cycle by examining the relationship between estrogen receptor, progesterone receptor, c-erbB2 gene and the menstrual cycle phase in patients with premenopausal breast cancer.

Method: Our study was designed retrospectively. 50 patients with premenopausal breast cancer who were operated were included in the study.

Results: Our results showed that the patients in the luteal phase had higher ER positivity, PR positivity and c-erbB2 negativity, and the number of metastatic axillary lymph nodes was lower than the patients in follicular phase.

Conclusion: BC surgery during the luteal phase in pre-menopausal women is associated with a better clinical outcome. Although larger-scale studies are needed, our results suggest that better results can be achieved by performing surgery in luteal phase in BC patients during premenopausal period.

Key words: breast cancer, menstrual cycle, premenopause, receptors, progesterone, receptors, estrogen