Timing of breast cancer excision during the menstrual cycle influences duration of disease-free survival.

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OBJECTIVE: To study disease-free survival at 10 years in relation to timing of breast tumor excision during the menstrual cycle. DESIGN: A prospective study of consecutively treated patients with primary breast cancer. SETTING: Memorial Sloan-Kettering Cancer Center, New York. PATIENTS: Two hundred and eighty-three premenopausal patients treated by mastectomy and axillary dissection. MAIN RESULTS: When the tumor was excised during the follicular phase, approximated by setting the putative day of ovulation on day 14 after the onset of last menses, a higher recurrence risk (43%) was observed compared with excision later in the menstrual cycle (29%, P = 0.02). The rate peaked among patients treated between days 7 and 14 and was lowest between days 20 and 30. Multivariate analysis using the Cox regression model to control for tumor size, nodal status, estrogen receptor status, adjuvant chemotherapy, and family history indicated that the hazard rate of breast cancer recurrence after excision during the follicular phase was 1.53 (95% CI, 1.02 to 2.29). Stratification by nodal status indicated that the effect of phase was statistically significant only among patients with positive nodes (hazard ratio, 2.10; CI, 1.19 to 3.70). CONCLUSIONS: Our results support the hypothesis that the risk for recurrence may be affected by the hormonal milieu of the menstrual cycle; these findings must be confirmed, however, by a prospective study in which cycle phase at time of tumor excision is biochemically documented.
MeSH Terms:

- Adult
- Breast Neoplasms/surgery*
- Carcinoma/secondary
- Carcinoma/surgery
- Female
- Humans
- Lymphatic Metastasis
- Mastectomy, Modified Radical/methods*
- Menstrual Cycle/physiology*
- Middle Aged
- Proportional Hazards Models
- Prospective Studies
- Statistics
- Survival Rate
- Time Factors

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