Estrogen receptor-alpha, breast cancer patients and tamoxifen response

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Researchers have found evidence of a statistically significant survival benefit from adjuvant tamoxifen among patients whose estrogen receptor (ER)-positive tumors had high levels of phosphorylation of ER-alpha; at serine-118 (ER-alpha S118-P), according to a brief communication published online November 25 in the *Journal of the National Cancer Institute*.

Approximately 50% of breast carcinomas are resistant to tamoxifen. Preclinical studies have shown that ER-alpha S118-P is required for response to tamoxifen.

Göran Landberg, M.D., Ph.D., of the Breakthrough Breast Cancer Research Unit, School of Cancer, Enabling Sciences and Technology at the University of Manchester, and colleagues evaluated data from 239 premenopausal patients with breast cancer who participated in a randomized trial of 2 years of adjuvant tamoxifen treatment vs. no systemic treatment. The association between recurrence-free survival and ER-alpha S118-P expression in tumor tissue was investigated.

Researchers found evidence of a statistically significant recurrence-free survival benefit from adjuvant tamoxifen, compared with no systemic treatment, among patients whose tumors had high ER-alpha S118-P expression (23.7 vs. 72.2 recurrences per 1000 person-years) but not among patients whose tumors had low expression (51.0 vs. 57.0 recurrences per 1000 person-years). ER-alpha S118-P was not associated with a benefit among untreated patients.

"Our study highlights the importance of assessing the functionality of a drug target," the authors write. "Future studies are necessary to evaluate whether ER-alpha S118-P expression is associated with tamoxifen response among post-menopausal patients."

Source: Journal of the National Cancer Institute (news : web)