

Evaluating the association of marginal expression of estrogen receptor in nuclei and Ki-67 in breast invasive ductal carcinoma

Shadravan S, MD, Fakhrjou A, MD, Sana't Z, MD.

Pathology Department, Imam Reza Hospital, Faculty of Medicine, Tabriz University of Medical Sciences

Background: Invasive ductal carcinoma is the most common breast cancer. Determining percentage of cells positive for Ki-67 expression as well as evaluating the status of estrogen receptors and proliferation rate has great prognostic value for choosing the better treatment. The relationship between the expression of Ki-67 and ER expression has been reported. The aim of this study is to investigate the association of marginal expression of estrogen receptor in nuclei and Ki-67 in breast invasive ductal carcinoma.

Methods: In this descriptive-analytical study, 50 samples of breast tissue with histopathologic diagnosis of invasive ductal carcinoma during 8 months period were evaluated for percent of Ki-67 staining, status of estrogen receptors in nuclei and marginal is evaluated.

Results: There was marginal expression of estrogen receptors in 25 cases and estrogen receptor in nuclei in 33 cases of which 13 cases had concurrent expression of marginal and in nuclei of estrogen receptor. In cases of marginal expression of estrogen receptor, there was higher percent of staining compared to estrogen receptors in nuclei. There was positive correlation between percent of Ki-67 staining and marginal expression of estrogen receptor ($r=0.45$, $p=0.001$) and involved lymph node ($r=0.47$, $p=0.001$) and negative correlation between estrogen receptor in nuclei with marginal expression of estrogen receptor ($r=0.61$, $p<0.001$), and positive correlation between marginal expression of estrogen receptor with involved lymph node ($r=0.45$, $p=0.001$).

Conclusion: Percentage of Ki-67 staining correlated significantly with the marginal expression of estrogen receptor and is not associated with the nuclear estrogen receptor status.

Keywords: Invasive ductal carcinoma; Estrogen receptor; Ki-67