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Emerging role of SPOPL in breast cancer; clinicopathologic correlation and prognostic significance

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Abstract:

Background: Breast cancer is the most common malignancy among women globally and is a main cause of cancer-related mortality. SPOPL protein functions as a tumor suppressor and there is little knowledge about this molecule in tumor generation and development.

Aim and objectives: The current study was conducted to evaluate the possible association between SPOPL expression and the prognosis of patients with breast cancer.

Material and methods: Forty blocks were collected retrospectively from cases of breast cancer, subjected to SPOPL, ER, PR, Her-2/neu and ki67 immunostaining. Clinicopathologic data of all cases were collected from Multidisciplinary Team meeting archives, Kasr El Ainy Hospital, Egypt; including follow-up results in 5-year interval time period and correlated with the immunostaining results.

Results:

High SPOPL expression was found in 21 (52.5%) of breast cancer patients. ER positive, PR positive, Her2/neu negative and low Ki67 expression were significantly associated with high SPOPL expression ($p=<0.001,0.026$, 0.001, 0.001, 0.042 and 0.007 respectively). Both anatomical and prognostic stages were associated with patients' survival ($P=0.002$, 0.011 respectively). The expression of SPOPL was not significantly associated with the overall patient survival ($p=0.013$).

Conclusion: The expression of SPOPL was significantly associated with most of the studied prognostic clinicopathological features of breast cancer patients, despite it was not associated with patients' survival, it still can be considered as promising molecule needs additional studies.

Keywords: SPOPL, breast carcinoma, immunohistochemistry, expression, immunostaining.