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Thesis Title	Immunohistochemical Expression of ER, PR, Her2/neu and Ki67 in Breast Carcinoma. Clinicopathological Study			
Year	2015			
Abstract	<p>Breast cancer is the most frequent cancer in women worldwide.</p> <p>In Iraq it is the most common cancer among females.</p> <p>According to the latest Iraqi Cancer Registry in 2010, breast cancer account for approximately one-third of the registered female cancers in Iraq, indicating that the breast cancer is the leading cause of death among females.</p> <p>Proliferation rates of neoplastic process can provide useful information on prognosis and aggressiveness of individual cancers including breast cancer and can be used to guide treatment protocols in clinical practice.</p> <p>Ki67 as a proliferative marker has been used to study proliferation rates in breast cancer and other tumors by Immunohistochemistry assessment of nuclear antigen which has a predictive and prognostic significant. Other important prognostic and predictive markers in breast cancer management including Estrogen and Progesterone receptors, Her2/neu have been used to predict the prognosis of breast cancer and to guide its therapy.</p> <p>Aim of study</p> <p>1. To evaluate the role of Ki67 as a proliferative index marker through analysing the associations between Ki67 intensity with the well-known clinicopathological parameters (age, breast tumor type, grade, size and lymph node involvement).</p>			

2. To correlate the association of Ki67 with Estrogen receptor, progesterone receptor and Her2/neu expression.

II

Patients, materials and methods

This retrospective cross-sectional study was conducted from November

2013 to April 2014. A total number of fifty paraffin blocks were collected, (40)

blocks belonging to patients with breast carcinoma (all were totally

mastectomy), (thirty five cases were invasive ductal carcinoma, four cases

invasive lobular carcinoma and one case was mixed type carcinoma) and (10)

blocks with benign breast diseases were included. The cases were selected from

archive files of the Department of Pathology of the Teaching Laboratories,

Specialized surgical Hospital in Baghdad Medical City and private laboratories,

and used for the immunohistochemical assessment of oestrogen receptor (ER)

and progesterone receptors (PR), Her2/neu and Ki67.

Results:

In this study, patients' age were ranged from (22-69) years, for forty

malignant cases the age range was (34-69) years with a mean of (50.30±9)

(mean± Standard deviation) years and the median age was (49) years, the peak

age frequency was in the (35-50) years age group at time of diagnosis. The main

histopathological type was invasive ductal carcinoma (87.5%). Grade II and T2

were reported in three quarters of the studied cases (30 cases out of 40). Axillary

lymph node positive involvement was reported in (72.5%) of cases.

For benign cases the age range was (22-60) years old, the mean age was

(36.50±13.75) (mean± Standard deviation) years old.

Hormone receptors positive malignant cases were (75%) and (72.5%) for

estrogen and progesterone receptors respectively.

Immunohistochemical expression of Ki67 was positive in (30) cases out of (40)

(75%). Ki67 high score were demonstrated in (57.5%) of malignant cases.

III

For Her2/neu expression more than (50%) of cases were with score 0, (17.5%) were with score 1+, (12.5%) were with score 2+ and (17.5%) were with score 3+.

Regarding molecular subtypes of the malignant cases, Luminal B

subtypes was the commonest among studied cases (42.5%).

Conclusions:

1. In the current study invasive ductal carcinoma was the commonest histopathological type of breast carcinoma while most of the benign cases

were fibrocystic disease cases, with a significant different mean age

between malignant and benign cases.

2. In this study Ki67 positive expression was observed in most of the studied

malignant cases. Significant correlations were found between Ki67

expression and tumor grade, lymph node involvement and Her2/neu score.

3. Luminal B subtype (Estrogen receptor +ve and /or Progesterone receptor

+ve, Her2/neu +ve or Her2/neu -ve with Ki67 high score) was the most

common molecular subtype of the studied breast cancer cases.