Amplification of HER-2 Gene in Benign and Malignant Breast Lesions in a Sample of Iraqi Women
Maysoon Abdul-Ameer Ahmed Al-Salman (MSc) 1, Risala Hussain Allami (Ph.D) 2 and Lamyaa H. M. Al-Ibrahimi (MSc) 3

Abstract

Background: Breast cancer is the most common cancer worldwide. From several markers of this malignancy, HER-2 is considered to have a particular importance because it associates with the treatment and prognosis of the disease.

Objective: To investigate the amplification of HER-2 gene in benign and malignant lesions of breast in a sample of Iraqi women.

Patients and Methods: A total of 24 excisional breast biopsies were obtained from women with breast lesions. Biopsies were preserved in 10% formalin and undergone paraffin embedding according to the standard protocol. Four µm thick sections were prepared and placed on positively charged slide and stained with fluorescent in situ hybridization. The stained slides were examined with fluorescence microscope to detect HER-2 gene amplification.

Results: Fourteen women were found to have benign lesions, while 10 were with malignant lesions. All benign lesions revealed two copies of the gene while seven of malignant cases showed positive results for HER-2 amplification (i.e more than 5 copies of the gene).

Conclusion: These results support the idea that amplification of HER-2 could be considered as an indicator for tissue transformation into malignant lesion.

Key words: HER-2, Breast Cancer, Fluorescent in Situ Hybridization.

Corresponding Author: ririallami@yahoo.com
Received: 1st June 2017
Accepted: 24th September 2017

1Department of Medical Biology and Comparative Medicine - College of Medicine-Al-Nahrain University- Baghdad-Iraq.
2College of Biotechnology-Al-Nahrain University-Baghdad- Iraq.
3Department of Human Anatomy- Section of Histology and Embryology - College of Medicine-Al-Nahrain University-Baghdad- Iraq.