Summary
Thirty patients with breast cancer were enrolled in this study, their ages ranged between (27-76) years; with the mean age was 50± 11.8 years. Also, 30 patients with benign fibroadenoma as case control group their ages ranged between (19-52) years; with the mean age was 33.1± 10.2 years. Those patients were diagnosed clinically, radiologically and cytologically and histopathologically by specialists, and they were among patients who attending the National Center For Early Detection Of Cancer - Medical City Complex / Ministry of Health, during the period from October 2011 to February 2012. Twenty apparently healthy subjects as a control group were included in the present study for comparison.

Major findings of current study were the following:-

1. There was a statistical significant difference in the serum level of galectin-4 between breast cancer patients and healthy control group (p <0.001) and even between case control and healthy control groups (p<0.001), however , there was no statistical differences between patients and case control groups (p=0.92). Since no statistical significant differences in serum galectin-4 median values between breast cancer patients (malignant tumors) and case control groups (benign tumors), therefore one can deal with breast tumor cases in general regarding serum galectin-4.

2. Also, The current study has been demonstrated that there was a statistical significant difference in the serum level of Toll like receptor-2 between breast cancer patients and healthy control group (p <0.001) and even between case control and healthy control groups (p <0.001), however, there was no statistical
differences between patients and case control groups (p =0.44). Since no statistical significant differences in serum Toll like receptor-2 median values between breast cancer patient (malignant tumors) and case control groups (benign tumors), therefore one can deal with breast tumor cases in general regarding serum Toll like receptor-2.

3. The predictive value of the tested galectin-4 to detect the validity of this parameter was studied since it had the highest accuracy (98.8) with sensitivity 100% within the cut off value (0.44ng/ml); therefore, testing positive at this cut-off value will establish a possible diagnosis of tumor with (95.2%) confidence in a clinical setting where the primary diagnosis of tumor had equal odds probability (50% pretest probability), and with (99.4% )confidence in a clinical setting where the primary diagnosis (based on history and examination) of tumor had a high probability (90% pretest probability).

4. The predictive value of the tested Toll like receptor -2 to detected the validity of this parameter was studied since it had the highest accuracy (97.5) with sensitivity 100% within the cut off value (0.14ng/ml); therefore, testing positive at this cut -off value will establish a possible diagnosis of tumor with (90.9%) confidence in a clinical setting where the primary diagnosis of tumor had equal odds probability (50% pretest probability), and with (98.9% )confidence in a clinical setting where the primary diagnosis (based on history and examination) of tumor had a high probability (90% pretest probability).

5. The median concentration of serum galectin-4 was obviously higher (0.895 ng/ml) among those patients with average to long duration of disease (3months +) in comparison to those with very recent disease (<3 months) and whose median concentration of galectin-4 was (0.552 ng/ml). The difference observed failed to reach the level of statistical significance (p value= 0.12); however, there was a statistic significant weak positive linear correlation between disease duration and human galectin-4 (r=0.268, p=0.039).

6. The median concentration of serum Toll like receptor -2 was obviously higher (0.619 ng/ml) among those patients with average to long duration of disease (1years +) in comparison to those with very recent disease (<3 months) and whose median concentration of Toll like receptor -2 was (0.343 ng/ml). The difference observed failed to reach the level of statistical significance (p value= 0.049); however, there was a statistically non significant weak positive linear correlation between disease duration and serum Toll like receptor-2 (r=0.16, p=0.22).

7. Concerning tumor size categories, the median concentration of serum galectin -4 was obviously higher (0. 895 ng/ ml) among
those patients who were within the fourth (highest) quartile in comparison to those within the first (lowest) quartile (0.567 ng/ml). There was a weak positive and statistically not significant linear correlation between tumor size and serum galectin-4 concentration (r=0.046, p=0.76).

8. Concerning tumor size categories, The median concentration of serum Toll like receptor-2 was obviously higher (0.619 ng/ml) among those patients who were within the fourth (highest) quartile in comparison to those within the first (lowest) quartile (0.288 ng/ml). There was a weak positive and statistically not significant linear correlation between tumor size and Toll like receptor-2 concentration (r=0.145, p=0.34).

9. For both (Galectin-4 and Toll like receptor-2) there were no statistical differences in serum median concentration between ductal carcinoma in situ and infiltrative carcinoma (p =0.12, 0.64 respectively).