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Thesis Title	SERUM LEVELS OF GALECTIN -4 AND TOLL -LIKE RECEPTOR -2 (TLR -2) IN WOMEN WITH BREAST TUMOR			
Year	2013			
Abstract	<p><b>Summary</b>  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.</p> <p><b>Major findings of current study were the following:-</b></p> <ol style="list-style-type: none"> <li>1. There was a statistical significant difference in the serum level of galectin-4 between breast cancer patients and healthy control group (p &lt;0.001) and even between case control and healthy control groups (p&lt;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.</li> <li>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 &lt;0.001) and even between case control and healthy control groups (p &lt;0.001), however, there was no statistical</li> </ol>			

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).