

## ***The Role of Programmed Death-1 Receptor, Programmed Death-1 Ligand (PD-1/PD-L1) and Apoptosis in Breast Cancer Patients: A potential Mechanism of Immune Escape***

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### ***Abstract***

The Role of Programmed Death-1 Receptor, Programmed Death-1 Ligand (PD-1/PD-L1) and Apoptosis in Breast Cancer Patients; A potential Mechanism of Immune Escape: This study suggested that PD-L1 could serve as an important target for antibody based immunotherapies, especially in the TNBC, where treatment options are limited. The direct correlation between PD-L1+ expression and serum Bcl-2 concentration may explore a role of apoptotic machinery in the pathogenesis of breast cancer. The study was conducted on a total of seventy-five females; fifty-five of them represented the breast cancer females at early (24 females) and advanced (31 females) stages and 20 age matched female donors represented the control group. Patients were recruited from the Cancer Research and Management Department, Medical Research Institute, Alexandria University. Flowcytometr technique was used for determination of PD-1/PD-L1 expression and ELISA technique for measurement of Bcl-2 serum levels. Significantly higher expression levels of PD-L1 were found in patients with positive lymph node, advanced tumor stage, histological grade II, tumor size T2, ER, PR, Her-2 negativity and TNBC subtype. Whilst a general increase in PD-1 positive expression between the breast cancer patients and control group regarding percentage and MFI of positive PD-1 expressing monocytes and granulocytes. Also, the results showed a highly significant association between PD-1+ and PD-L1+ expression in early and advanced breast cancer patients ( $p < 0.0001$ ). There was a significant increase in the mean of Bcl-2 serum concentration in patients compared to healthy individuals. Finally, the results showed that Bcl-2 serum concentration correlated positively with positive PD-L1+ expressing granulocytes.

### ***Biography:***

Samar Abdullah M.Sc. In immunology and Allergy, Alexandria University, medical research institute, 26 years old, the point of Interest Is tumor immunology researches and Bioinformatics and have been applying to PhD degree in the same department.

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