

**Role of FLT3 Receptor in Peripheral White Blood Cells of Newly Diagnosed
Diffuse Large B Cell Lymphoma Patients and Healthy Individuals:
A Preliminary Study**

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Diffuse Large B Cell Lymphoma (DLBCL) is a major subtype of lymphoma. FLT3 (FMS-related-receptor-tyrosine-kinase-3) receptor stimulates the proliferation of lymphocyte/monocyte lineages, and FLT3 mutations cause abnormal production of cells. This study aimed to detect the behavior of peripheral WBCs and cell ratios in new DLBCLs (before chemotherapy) with the expression of FLT3. The peripheral blood of DLBCL patients ($n=21$) that included FLT3 (+) ($n=5$) and FLT3 (-) ($n=16$) and healthy ($n=32$), were FLT3 (-) as analyzed by flow cytometry. WBC counts were acquired by a Mindray-BC-6800 hematology analyzer. Mean values were compared using the One-way-ANOVA with Bonferroni test. The whole group of new DLBCLs showed a significant increase ($p<0.05$) in Absolute-Neutrophil-Count (ANC), Neutrophil/ Lymphocyte Ratio (NLR) and significant decrease in the Peripheral-Blood-Mononuclear-cells, Absolute-Lymphocyte-Count (ALC), and Lymphocyte/ Monocyte Ratio (LMR) than the healthy individuals. A significant increase ($p<0.05$) in the total WBC, ANC, NLR, and Immature-Granulocytes (IMG) were detected in FLT3 (+) DLBCL compared to FLT3 (-) DLBCL. When comparing means, a significant increase ($p<0.05$) was noted in WBC, ANC, NLR, IMG, and a significantly decreased in ALC, LMR in FLT3 (+) DLBCL compared to the healthy individuals. In contrast, only PBMNCs, ALC, and LMR were significantly lower in FLT3 (-) DLBCL than in the healthy individuals. Higher NLR and lower LMR indicate that the FLT3 (+) DLBCL patients may have been associated with inflammation in comparison to the FLT3(-) and healthy group.

Keywords: DLBCL, FLT3, Absolute WBC Counts, NLR, LMR

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