Abstract:

Objectives: As we noted that CD30 is a valuable molecule in regulation of growth and death of lymphocytes in malignant lymphomas, we decided to analyze CD30 expression and serum soluble CD30 (sCD30) molecule level in patients with acute lymphocytic leukemia (ALL) to assess their role as a prognostic markers and to examine the possibility of anti-CD30 to be a targeted therapy in these patients. Methods: We studied CD30 expression by Multicolor flow cytometry immunophenotypic analysis on bone marrow aspirates of 90 ALL patients (51 T-ALL and 39 B-ALL). Serum sCD30 level was measured by Enzyme Linked Immunosorbent Assay (ELSA). We correlate CD30 and sCD30 values with all of white blood cell counts, Hemoglobin, platelets, bone marrow blasts and cytogenetics. Results: Our study conducted on 90 ALL patients. The 90 ALL patients included 51 patients with T-ALL and 39 with B-ALL. Of the 51 T-ALL patients, 29 (56.8%) were males and 22 (43.2%) were females. Mean age was 42.4±19.1 years old (10-78 years), and of 39 B-ALL patients, 23 (59%) were males and 16 (41%) were females. Mean age was 44.4±18.6 years old (9-70 years). In T-ALL, 33.3% (17 out of 51 patients) have high CD30-expression and 27.4% (14 out of 51 patients) have elevated serum sCD30. We found that there was a significant correlation between both CD30 expression and sCD30 level with WBCs count, BM blasts, Adverse risk cytogenetics, BCR/ABL and with relapse for CD30 expression, complete remission failure with elevated serum sCD30 level. While in B-ALL, CD30 expression (>20%) was detected in 20.5% (8 out of 39 patients) and elevated sCD30 was detected in 15.4% (6 out of 39 patients). However, we did not found significant relation between both CD30 expression and sCD30 level and BCR/ABL, relapse and failure of treatment. Conclusions: CD30 is expressed by lymphoblasts in ALL patients. We found that high CD30 expression and elevated sCD30 level can be used as prognostic markers for relapse and complete remission failure respectively in only T-ALL subtype not in B-ALL subtype. Furthermore, These patients with adverse risk cytogenetics have not too many treatment options, so the use anti-CD30 targeted therapy may be a possible alternative for this patient group.

Keywords:

CD30, sCD30, acute lymphocytic leukemia, Relapse,CD30 Targeted therapy.

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