Background: B-cell malignancies are clonal expansions of B-cells that express only one type of Ig light chain (L or k) or (rarely) lack surface Ig light chain expression. Multiparameter color flow cytometry allows analysis of light chain expression in total CD19+ B-cell population and also in various subsets of B-cells such as CD5+/CD19+, CD23+/CD5+/CD19+ or CD10+/CD19+ positive cells.

Objectives: This study was designed to assess the immune phenotyping of 30 patients with chronic lymphoproliferative diseases using flow cytometry.

Methods: 30 patients with chronic lymphoproliferative disorders have been investigated by flow cytometry. This study was done in Al Rawabie laboratory in the period between January 2013 till November 2013.

Results: Among 30 patients with chronic lymphoproliferative diseases, 18 patients diagnosed as chronic lymphocytic leukemia, 3 with follicular lymphoma, 6 with marginal zone lymphoma, 2 with splenic lymphoma with villous lymphocyte and one case of multiple myeloma.

Conclusion: Multiple parameter immunophenotyping analysis improves the accuracy of diagnosis in lymphoid malignancies, and can be used in diagnosis, which easily detects infrequent hematological malignancies differentiated diagnosis, and detection of minimal residue in lymphoproliferative diseases the simultaneous recognition of different cell populations allows the diagnosis of composite cell lymphomas, or double pathologies.