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# P-GLYCOPROTEIN QUANTITATION IN ACUTE LEUKEMIA

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## Abstract:

Multi drug resistance(MDR) is a major problem in the treatment of cancer and hemalological malignancies. This resistance is multi factorial and is the result of decreased intra cellular drug accumulation. This is partly due to the presence of a 170KD intra membranous protein termed P-glycoprotein(P-gp) that is an energy-dependent efflux pump which has increased expression on drug-resistance cells. In this study we identified the presence of P-gp by staining with Fluorescent Iso Thio Cyanate (FITC) conjugated anti P-gp in acute leukemia patients and flow cytometry in addition to performing immunophenotype analysis and French, American British (FAB) classification. Results revealed that one fifth of leuke¬mic patients expressed P-gp and this phenotype was more prevalent in Acute Undifferentiated Leukemia(AUL) and Acute Myelogenous Leukemia (AML) than in Acute Lymphoblastic Leukemia(ALL). Other findings showed a logical rela¬tionship between this phenotype and age groups. There was not any association between P-gp+ phenotype and FAB and Immunophenotyping sub classification, but there was a linear relationship between CD34 and CD7 expression and P-gp+ phenotype. The accumulation of P-gp molecule that was stated as Mean Fluores¬cence Intensity (MFI) on the blasts1 membrane of AUL and AML patients showed marked increase in comparison to ALL. Furthermore MFI in P-gp+ relapsed patients was much more than P-gp+ pretreatment patients.

## Keywords:

P-glycoprotein ، Flowcytometry ، FAB classification ، Immunophenotyping ، Mean Fluorescence Intensity

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