

Inflammatory Cytokine (Interleukin-8): A Diagnostic Marker in Leukemia

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Abstract : Leukemia is a malignancy of blood that mainly affects children and young adults; while advancement in the early diagnosis will have the potential to improve the outcome of diseases. A wide range of disease including leukemia shows inflammatory signals in their pathogenesis. In a pilot study conducted in our laboratory, 52 people were screened, of which 26 had leukemia and 26 were free from any kind of malignancy. We performed the estimation of the inflammatory cytokine Interleukin-8 and it was found significantly raised in all the leukemia patients concerning healthy volunteers who participated in the study. Flow cytometry had been performed for the confirmation of leukemia and further genomic, and proteomic, analyses of the sample revealed that IL-8 levels showed a positive correlation in patients with leukemia. The results had shown constitutive secretion of interleukin-8 by leukemia cells. So, our finding demonstrated that IL-8 is considered to have a role in the pathogenesis of leukemia, and quantification of IL-8 levels in leukemia conditions might be more useful and feasible in the clinical setting for the prediction of drug responses where it may represent a putative target for innovative diagnostic toward effective therapeutic approaches. However, further research explorations in this area are needed that include a greater number of patients with all different forms of leukemia, and estimating their IL-8 levels may hold the key for the additional predictive values on the recurrence of leukemia and its prognosis.

Keywords : T-ALL, IL-8, leukemia pathogenesis, cancer therapeutics

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