



# Expression and effect of serum interleukin-24 level on bone marrow mononuclear cells in children with acute leukemia

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**ABSTRACT.** To investigate the expression of interleukin-24 (IL-24) in the children with acute leukemia (AL) and its effect on the apoptosis of bone marrow mononuclear cells (BMMNCs) *in vitro*. Four groups were assessed: acute lymphocytic leukemia (ALL), acute myeloid leukemia (AML), non-leukemia, and healthy groups, 20 children in each group. ELISA was used to measure IL-24 serum level. The bone marrow was taken from patients and controls. BMMNCs were isolated and the DNA was analyzed by glucose electrophoresis. Flow cytometry was used to determine BMMNC apoptosis. The serum level of IL-24 in the ALL and AML groups were significantly higher than in the other two groups. There was no statistical difference between ALL and AML groups, either between non-leukemia and healthy groups. BMMNCs were exposed to IL-24 for 48 h, and the apoptotic rate of the group treated with 50 ng/ml IL-24 was obviously higher than that of control group (0 ng/mL). The serum IL-24 level of AL children decreased comparing to non-leukemia

and healthy children, indicating that IL-24 can induce BMMNCs apoptosis of AL children *in vitro*.

**Key words:** Acute leukemia; Children; Interleukin-24; Mononuclear cell; Apoptosis