

Case 2

A three year-old child developed fever, generalized lymphadenopathy¹ and a peripheral blood WBC of 100,000.² Eighty percent of the peripheral blood white cells were lymphoblasts. Antibody studies to cell surface markers on the leukemic lymphoblasts failed to distinguish B-cell versus T-cell acute leukemia.

¹enlarged lymph nodes

²100,000 cells/ μ l

Questions for Case 2

- (1) The prognosis and treatment of T-cell leukemia differs from that of B-cell acute leukemia; thus, it is important to distinguish between the two. What antibody tests are used to distinguish T-cell versus B-cell acute leukemia?
- (2) Southern blots were performed on DNA extracted from the patient's peripheral blood white cells, using J-region probes for the TCR β and Ig heavy-chain genes. Describe the patterns of the Southern blots if the cells were: (a) leukemic B-cells, or (b) leukemic T-cells. What would similar Southern blots of normal peripheral blood lymphocytes show?
- (3) What is the difference between leukemia and lymphoma?