CORRESPONDENCE

To the Editor:

In a recent article published in Blood, Sondel et al. used a panel of surface markers to analyze cells from four patients with acute lymphoblastic leukemia/lymphoma. Results obtained with the "OKT" monoclonal antibodies and spontaneous rosette formation with rhesus erythrocytes suggested that some leukemic phenotypes may not correspond to normal stages of lymphoid differentiation. Sondel et al. concluded that it may be inappropriate to classify leukemic cells according to categories of normal lymphoid differentiation.

I believe the results obtained by Sondel et al. are open to other interpretations. First, the fact that leukemic cells from cases I and II were OKT3-, T4+, T8- is not necessarily inconsistent with antigenic expressions on developing thymocytes. Indeed, examination of the data in Table I indicated that 75% of normal thymocytes were OKT3+. Therefore, in contrast to previously published data, the results obtained by Sondel et al. suggest the existence of an OKT3+, T4+, T8- cell in normal thymus.

Second, the suggestion is made that case IV does not fit into a human null lymphocytes with Rhesus monkey erythrocytes. Clin Exp Immunol 32: 498-505, 1978

REFERENCES

3. Chiao JW, Dowling M, Good RA: Rosette formation of B-cell category because cells from this patient formed rhesus rosettes. However, as previously reported, peripheral blood "null cells" also form rhesus rosettes. Furthermore, a significant number of such "null cells" have been reported to represent a subset of B cells. Combined with the fact that case IV was OKT3+, T4-, T6-, T8-, one could argue that this lymphoma does represent a "normal" (B-cell) phenotype.

I would agree with Dr. Sondel and his colleagues that we should exercise caution in categorizing leukemic cells by the pathways of normal differentiation. However, a tremendous amount of accumulated data has supported such an approach. It would seem that future studies should objectively take both views into consideration.

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To the Editor:

The prior correlation of E⁺ rosette formation with poorer prognosis in childhood ALL suggested "T-ALL" may reflect a different disease than "null-ALL." The advent of the OKT (and other) monoclonal reagents has enabled the identification of ALL cells with a variety of immune phenotypes. We described patients that were OKT3⁺ and E⁺. By past criteria, these cells would have been categorized as "non-T-ALL," despite our detection of a mature T-cell surface marker. Rather than categorizing them as "null-ALL" or T-ALL," we feel it appropriate to call them what they are, T3⁺ E⁺, and continue collecting data before implying clinical significance to these subtle phenotype distinctions. This approach does not disagree with the elegant differentiation schema proposed by the study of normal thymocytes with these same OKT reagents. Nevertheless, some lymphoid neoplasms do not strictly conform to this proposed thymocyte differentiation pathway.⁴

Regarding Dr. LeBien's two criticisms, we agree that some null cells are pre-B-cells,⁴ and some are RbRBC⁺. Yet it has so far been difficult to identify Slg⁺ and RhRBC⁺ normal lymphocytes, as in our case IV. Second, our cases I and II are OKT3⁺ T4⁺ T6⁺. Bernard et al. have also found 20 of lymphoblastic lymphoma (LL) patients to have this identical immune phenotype⁶ except ours are 3⁺ theirs E⁺. Recent studies suggest some normal cells may express these markers,⁷ however, this leads to the following inconsistency. If we try to fit this phenotype into the currently proposed differentiation pathway, it would suggest that a T4⁺ T6⁺ bearing cortical thymocyte entering the medulla gains T3 prior to losing T6⁺ and becoming either T3⁺ T4⁺ or T3⁺ T4⁺. If this is accepted, how can one account for our case III (OKT3⁻ T4⁺ T6⁻), which would suggest that the T6 marker is lost prior to obtaining the T3 marker. Two of 21 LL patients have also been described to have this phenotype. There are 3 explanations: (A) a single individual may have many distinct (parallel) thymic differentiation pathways, (B) different individuals may differentiate according to different pathways, or (C) not all lymphoid neoplasms correspond to normal pathways.

We agree with Dr. LeBien that future studies should "objectively take both" (all 3) of these possibilities into consideration. In so doing, we feel it is still premature to begin categorizing all LL-ALL patients into "normal pathways." Over the next 1 or 2 yr the availability of these monoclonal reagents should enable standardized world-wide typing of thousands of patients. Once such data are obtained, we may be better able to correlate objective phenotype with clinical course and to examine the relationship of normal and neoplastic human lymphoid differentiation.

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Surface markers to analyze cells from four patients with acute lymphoblastic leukemia/lymphoma [letter]

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