

*To the Editor:*

Although similar to the four cases we reported, Drs Neame and Soamboonsrup suggest that the single case of acute monocytic leukemia they describe is unique. Blast cells from their patient expressed myeloid surface antigens and the T-11 antigen (90% of cells), and formed rosettes (61% of cells) at 4 °C with S-(2-aminoethyl)isothiuronium bromide hydrobromide (AET)-treated sheep erythrocytes (SRBCs). The authors conclude that E rosette (ER) formation at 4 °C with AET-treated SRBCs is a distinctive feature of their case.

In our original article, we published the results of ER assays with only untreated SRBCs incubated at either 4 °C or 37 °C, because in our hands these are more specific tests for the Tp50 molecule on leukemic blasts; however, we have tested cells for ER formation with AET-treated SRBCs at 4 °C. Blasts from our patients No. 3 and 4 formed ERs (29% and 30%, respectively), while those from patients No. 1 and 2 did not. Thus, by the criterion of ER formation with AET-treated SRBCs at 4 °C, two of our cases could be considered analogous to the case of Neame and Soamboonsrup. It would be helpful to have information on ER formation with untreated SRBCs incubated at both 4 °C and 37 °C, as well as immunoprecipitation data, so that we could more accurately compare these cases. Nonetheless, it appears that ER formation and T-11 reactivity are not necessarily coexisting properties of blast cells in cases of mixed-lineage leukemia.

This letter prompted us to review the literature on patients with acute nonlymphocytic leukemia (ANLL) whose blasts formed ERs with untreated SRBCs at a temperature greater than 4 °C (heat

stable). At least one patient, reported by Gordon and Hubbard,<sup>1</sup> demonstrated ER formation at 37 °C, while two others with monocytic leukemia formed ERs at 37 °C<sup>2</sup> or at room temperature.<sup>3</sup> Such findings provide further evidence that the Tp50 molecule is present on blast cells from patients with ANLL. Possibly all blasts with T-11 reactivity do not form heat-stable ERs because of a lower density or hidden epitopes of the Tp50 molecule, as suggested by Bernard et al.<sup>4</sup> Further studies on ANLL patients with T-11-positive blasts, including ER assays, should be performed to help answer such questions.

These unique cases add greatly to our understanding of the heterogeneity of lineage-associated characteristics in acute leukemia.<sup>5</sup> It would be worthwhile to analyze normal myeloid progenitor cells for the presence of the Tp50 molecule, and to determine if this molecule has a functional role in myeloid cells, as it does in T cells.<sup>6</sup> Such studies may help to resolve whether aberrant gene expression is responsible for our findings or whether myeloid and lymphoid antigens are simultaneously expressed by normal hematopoietic precursors but are difficult to identify.

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TERMINOLOGY IN T $\gamma$  LYMPHOPROLIFERATIVE DISEASE

*To the Editor:*

The review by Reynolds and Foon in the December 1984 issue of *Blood* does an excellent job of calling attention to a most interesting syndrome that seems to be increasing in frequency. However, we feel that the review does not adequately clarify the prevalent confusion surrounding the concepts of "large granular lymphocytes," "T $\gamma$  cells," and "natural killer cells." Although the authors have not made any factual errors in their review, the way in which they have used the terminology may lead to the incorrect impression that these are all identical (or at least developmentally related) cell types. We would like to raise several specific points in an attempt to clarify the issues surrounding these terms.

First, there is no established developmental relationship between

the Leu4/T3-bearing cell seen in this syndrome, and the Leu4/T3-negative Fc receptor-positive lymphocyte which is the predominant cell mediating natural killing.<sup>1</sup>

Second, the term "large granular lymphocyte" includes a number of cells with distinct surface antigenic phenotypes. There is no established relationship between these cells. This should be thought of as a rather fuzzy terminology referring only to the morphology of the cell.

Third, the term "T $\gamma$  cell" historically refers to a cell having the ability to rosette with sheep erythrocytes and also to rosette with erythrocytes coated with IgG. Studies with monoclonal antibodies to surface antigens have shown that this includes both Leu4/T3-positive and -negative cells. The relationship of this cell to thymic-derived lymphocytes is uncertain. The term "T $\gamma$  cell" should not be