CORRESPONDENCE

Thymidylate Synthetase in Pernicious Anemia

To the Editor:

I read with interest the article by Sakamoto et al.1 There were a few points that concerned me.

(1) I have opted to use the stimulated human lymphocyte2 in my work because the analysis of bone marrow material is complicated by two facts: First, this material consists of a mixed population of cells with considerable differences in their DNA synthetic and mitotic activities. Second, after removal of 0.3 ml from one bone marrow site, peripheral blood mixes precipitously with any further attempt at marrow procurement.3-4 I think that patients with normoblastic hyperactivity of the bone marrow such as occurs in hemolytic diseases would be a better control than normal individuals for comparison with bone marrow material obtained from patients with pernicious anemia who also have erythroid hyperplasia but with megaloblastic development. Therefore, I would like to know whether single or multiple site aspirations were performed by the authors in any given individual. Also, I would like to know the differentials on the material obtained, or at least the number of cells potentially capable of dividing. We and others have detected no thymidylate synthetase activity in non-dividing hemopoietic cells.5,6

(2) I have used almost the same method for assay of thymidylate synthetase as the authors. Tetrahydrofolic acid in the presence of formaldehyde spontaneously forms the 5,10 methylene tetrahydrofolic acid derivative.7 I had to use $1 \times 10^7$ stimulated lymphocytes ("blasts") per ml in order to obtain minimal activity of statistical significance. The authors adjusted the bone marrow material to a count of $3.4 \times 10^8$ cells/cu mm, which is $3.4 \times 10^8$ cells/ml. I would like to know how the authors concentrated the bone marrow material to obtain these high values.

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REFERENCES


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To the Editor:

Bone marrow cells are mixtures of heterogeneous cell populations with considerable differences in DNA synthetic and mitotic activities, as Dr. Haurani pointed out. Although some attempts have been made to separate bone marrow cells into different cell populations, we still do not have any satisfactory methods to separate these cell populations with sufficient yields and without contamination by other cell

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