The initial evaluation of patients with any type of cancer brings forth the immediate question “How is this going to change my life?” Staging systems applied from diagnosis aid in predicting survival. In this sentinel paper, Kanti R. Rai and colleagues described a simple staging system that relies only on a complete blood count and physical exam to provide a prediction of patient outcome. Papers such as this one that grouped patient results together rather than reporting case reports or small series ultimately led to an improvement in the care of leukemia patients. The Rai staging system described in this paper remains a tool still used by hematologists in 2016, more than 40 years after the publication of this work.


1975

Clinical Staging of Chronic Lymphocytic Leukemia

By Kanti R. Rai, Arthur Sawitsky, Eugene P. Cronkite, Arjun D. Chanana, Robert N. Levy, and Bernard S. Pasternack

A method of clinical staging of chronic lymphocytic leukemia (CLL) has been proposed which is based on the concept that CLL is a disease of progressive accumulation of nonfunctioning lymphocytes: stage 0, bone marrow and blood: lymphocytosis only; stage I, lymphocytosis with enlarged nodes; stage II, lymphocytosis with enlarged spleen or liver or both; stage III, lymphocytosis with anemia; and stage IV: lymphocytosis with thrombocytopenia. Analysis of 125 patients in the present series showed the following median survival times (in months) from diagnosis: stage 0, >150; stage I, 101; stage II, 71; stage III, 19; stage IV, 19. The median survival for the entire series was 71 mo. The prognostic significance of the stage remained even after adjustment was made for age and sex. However, both sex and age were shown to be poor predictors of survival after adjustment for stage. The method of staging proved to be a reliable predictor of survival whether used at diagnosis or during the course of the disease. The proposed staging system was an equally accurate indicator for survival when applied to two other previously published studies of large series of patients.

CHRONIC LYMPHOCYTIC LEUKEMIA (CLL) is a disease known to have a variable course; some patients die within 1 yr after diagnosis, while others live for longer than 10 yr. There are no generally accepted and measurable, standardized parameters available to a physician which might aid him in the assessment of prognosis of a patient with CLL either at the time of diagnosis or during the course of the illness. Dameshek suggested that CLL is an accumulative disease of a functionally inactive population of lymphocytes. According to Dameshek, the CLL lymphocytes have a long life span, and, therefore, more and more such lymphocytes accumulate in a patient during the course of the disease. The observations of Boggs et al. and Zippin et al. reveal that, when the survival from the time of diagnosis is short, all the data obtained by physical examination and laboratory studies tend to be more abnormal at diagnosis than data found among the longer survivors. We propose a system for the clinical staging of CLL which is based on Dameshek’s concept and have

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The work described in this report was performed at the above noted institutions. It involved human patients who were treated in accordance with the precepts established in the Helsinki Declaration.

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