Erythroblastopenia in Acquired Immunodeficiency Syndrome (AIDS)

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Anemia has been noted frequently in patients with AIDS [1], yet its causes have remained unclear. We would like to suggest that its pathogenesis may be related to possible immune mechanism.

A 24-year-old black homosexual was admitted to our ward on October 9th, 1982, for evaluation and possible treatment of AIDS, diagnosed 8 months previously. He had a persistent CMV infection that had not responded to either ARA-A or interferon treatment. CMV was indeed isolated from his saliva, urine and WBC. On admission, he was cachectic, febrile and dehydrated. Lung, heart and abdominal examination revealed no abnormality; no signs of bleeding were found. Laboratory studies showed slight macrocytic anemia – hemoglobin 7.6g/dl, hematocrit 27%, MCV, 94, leukocytes 4.6 10^6/1 with marked lymphopenia (4%). Reticulocyte count was 0.5% and Coombs’ test negative. Bone marrow examination showed normocellular material with less than 5% normoblasts in all stages of maturation, while granulopoiesis and thrombopoiesis were well preserved. A diffuse lymphocytosis was noted. The patient had a marked impairment of immune functions with complete anergy, and response to neither mitogens nor allogeneic stimulation. Lymphoid population analysis revealed a decrease in total number of mature T cells (40%) with inverted ratio of helper/ suppressor T cells – 0.4 (normal ⅛ 1.6).

Erythroblastopenia is a rare, distinct entity in which the patient stops producing red cells, while other elements are well produced. Pure red cell aplasia has been described in association with thymoma and with several other immunological abnormalities [2]. Cell-mediated suppression of erythropoiesis via suppressor T cells has been demonstrated in vitro [3] and in few cases of chronic lymphatic leukemia [4]. Our patient had erythroblastopenia with increased T suppressor cell activity, which may indeed suggest a causal relationship between them. Disturbances in lymphocyte function are major findings in AIDS [5]. Chronic CMV infection, from which the patient was also suffering has also been shown to be associated with increased T suppressor cell activity [6].

References