CORRESPONDENCE

Another Case of t(4;9;22) in Chronic Myeloid Leukemia

To the Editor:

In their letter, Rowley et al.1 emphasizes that the validity of the notion that variant Ph' translocations are nonrandom depends on the accumulation of a large number of such cases. Therefore, we believe it is pertinent to report another case with a t(4;9;22) translocation in chronic myeloid leukemia (CML). The first one was described by Rowley et al.2

M.R., a 56-yr-old female, presented in July 1978 with a 4-mo history of progressive weakness. The peripheral white blood cell count (WBC) was 380,000/cu mm with 14% myeloblasts. The hemoglobin (Hb) was 8.4 g/dl and platelet count was 600,000/cu mm. LAP score was 0. The bone marrow aspiration was extremely hypercellular with M-E ratio 15:1 and no signs of blastic metamorphosis. The bone marrow biopsy showed abundant cellularity with no signs of myelofibrosis. Her spleen was 4 cm below the left costal margin.

Cytogenetical analyses were performed at the time of diagnosis. All 50 bone marrow metaphases analyzed by the direct method revealed, besides a Ph' chromosome, two marker chromosomes resulting from a complex three-way translocation between chromosomes 4, 9, and 22 (Fig. 1). The markers were identified by T-G bands technique as: 4p ter → 4q 23:22q 11 → 22 q ter and 9p ter → 9q 34:4q 23 → 4q ter, respectively. Phytohemagglutinin-stimulated lymphocytes revealed a normal female karyotype (46,XX).

The patient was considered to be in the impending stage of CML metamorphosis. Busulphan, 4 mg/day, was instituted. The patient responded to this therapy, and by the end of December 1978, her WBC count was 18,000/cu mm with no myeloblasts. The Hb was 11.2 g/dl and platelet count 380,000/cu mm. However, the spleen size remained unchanged.

Three months later, the course of the disease deteriorated; she became unresponsive to Busulphan treatment, and clinical and hematologic signs of metamorphosis were evident: the WBC count was 507,000/cu mm with 24% myeloblasts. Her Hb was 9.6 g/dl and platelet count was 430,000/cu mm. LAP score was 28 U. The bone marrow aspiration revealed an extremely hypercellular marrow with a high percentage of pathologic peroxidase positive myeloblasts. Her spleen was enormously enlarged. The cytogenetical findings were the same as previously described. She was given hydroxyurea, 1500 mg/day, and Purinethol, 100 mg/day. However, only a partial hematologic remission was achieved. The patient was discharged from the hospital by the end of May 1979. She failed to appear for the next control, which was due to the fatal termination of the illness.

Fig. 1. Trypsin-Giemsa banded marker chromosomes and their normal counterparts 4, 9, and 22 from two bone marrow cells of a patient with CML and t(4;9;22).

So far, the significance of the complex translocations for the clinical course remains to be clarified.3 However, it should be noted that, in contrast with the previous report,2 in our case, t(4;9;22) was discovered in the impending stage of the blastic phase of CML remaining stable throughout the evolution of the disease.

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