SHORT COMMUNICATION

Chronic Myelogenous Leukemia with Translocation (8;22): Report of a New Case

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Many simple or complex Ph translocations in chronic myelogenous leukemia (CML) have already been described [1–4], but to our knowledge, chromosomes #1 and Y have never been mentioned as being involved in a simple translocation. Only one case with a t(8;22) translocation has previously been reported [5].

In this article we describe another patient with CML in whom the Ph chromosome was the product of a translocation between the telomeric ends of chromosomes #8 and #22. This is in agreement with the specificity of chromosome #22 involvement in CML.

The patient, R. Mohamed, a 45-year-old man, entered hospital on May 20, 1983 because of worsening of his general health. Clinical investigations revealed a splenomegaly (6 cm below the costal margin) and a discrete hepatomegaly. Blood findings showed hyperleukocytosis (WBC of 172×10^9/L), a subnormal platelet count (390×10^6/L), and macrocytic anemia (hemoglobin 11.8 g/dl, VGM 100 fl). The leukocyte formula revealed a large myelemy: 13% neutro-myelocytes, 3% promyelocytes, and 3% myeloblasts.

The myelogram was hypercellular, with 90% granulocytic precursors with no excess of blasts. A low level of leukocyte alkaline phosphatase was found (11; normal level 20–120), and a high level of B_{12} vitaminemia was present (2 ng/ml; normal level 0.3–1).

The diagnosis of CML was established by the presence of a Ph chromosome. Treatment with busulfan (6 mg then 4 mg/day) was given. In spite of regular monitoring of the hemogram and discontinuation of busulfan when the leukocytes were 11×10^9/L within 2 months of treatment, severe medullary aplasia appeared in November 1983.

Cytogenetic studies on bone marrow were performed when the patient entered hospital. After 24 hr of cultivation, 31 mitoses were analyzed with banding techniques (RHG, GTG, CBG), showing an unusual Ph translocation between chromosomes #8 and #22 (Fig. 1). Breakpoints were thought to be at q24 and q11 or 12 bands, respectively, after RHG and GTG banding. PHA-stimulated lymphocytes showed a normal karyotype.

Four cases of Burkitt's lymphoma with t(8;22) have previously been reported [6].

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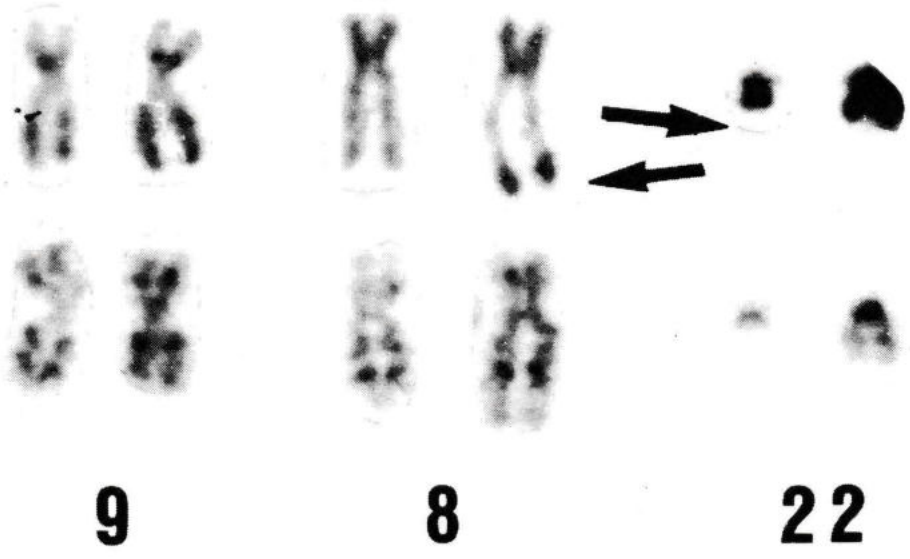

Figure 1 Translocation t(8;22)(q24;11) (RHG and GTG).

It is noteworthy that very different hemopathies may be associated with the same chromosomal abnormalities, e.g., 8q23 or 24 and 22q11 or 12 with identical breakpoints. Furthermore, a parallel may be drawn between lymphoid blast crisis in CML and acute lymphoblastic leukemia with a Ph chromosome.

It is untimely to say whether or not the t(8;22) translocation in our patient will lead to an unusual evolution of the disease. Generally, this has not been the experience with Ph chromosome variants [2].

Even though busulfan was administered in accepted doses, a medullar aplasia occurred unexpectedly after the first treatment. This was not noticed in the first reported patient with a t(8;22) translocation [5]. It should be emphasized that both t(8;22) patients were of North African origin.

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