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Cytogenetic and Breakpoint Cluster Region (bcr) Changes in Chronic Myelogenous Leukaemia Treated with Low-Dose Alpha Interferon

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ABSTRACT

THERE is continuing interest in the role of alpha interferon in the treatment of chronic myelogenous leukaemia (CML), both because it is an effective agent for disease control and because cytogenetic improvement is seen in a significant proportion of cases. We have entered 23 patients with chronic phase CML into a study using standard oral chemotherapy in conjunction with interferon alfa-2b (IFN) 3 million units (MU) subcutaneously three times a week. All patients were 100% Ph^1-positive and 22/23 had a detectable bcr rearrangement at the start of IFN therapy. The median duration of chronic phase before IFN treatment was 18 months (range 1-56 months).Oral chemotherapy was given with IFN in 22/23 patients to try to achieve complete haematological remission. Treatment was well tolerated; IFN dosage reduction was necessary in seven patients: three with myelosuppression, one with immune thrombocytopenia and three with abnormal liver function tests. The mean duration of IFN treatment is 17 months (range 6-38 months). There has been a reduction in the proportion of Ph^1-positive metaphases in six (26%) of the 23 patients (mean of six = 56% Ph^1-positive, range 7-97%). The bcr remained rearranged in all those showing a cytogenetic response. Median duration of follow up is now 31 months since the start of interferon treatment (range 21-79 months) and 43 months since diagnosis (range 29-82 months). Four patients have gone into blast transformation (three myeloid and one lymphoid) and four have died, three following blast transformation and one with myelofibrosis and marrow failure. These results suggest that treatment with comparatively low-dose IFN (9 MU/week) is well tolerated and produces karyotypic improvement in a significant proportion of cases. Longer follow-up will be required to assess the group's survival and the relationship of patient survival to cytogenetic response.

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Randomized, Parallel-group Comparison of Interferon Alfa-2b plus Hydroxyurea Versus Hydroxyurea Alone in Patients with Chronic Myelogenous Leukaemia in Chronic Phase

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ABSTRACT

A STUDY was undertaken to compare the effect of recombinant interferon alfa-2b (IFN alfa-2b) plus hydroxyurea (HU) with that of HU alone on haematological remission (HR) in patients with chronic phase chronic myelogenous leukaemia (CML). Twenty-one patients were randomized to receive either IFN alfa-2b plus HU (n = 12; seven male and five female; mean age 40 years, range 29-57 years) or HU alone (n = 9; three male and six female; mean age 35 years, range 24-50 years). All patients initially received cytoreductive therapy with HU alone, at a dose according to the white blood cell (WBC) count. When the WBC count decreased to 5-10 x $10^3/\mu l$, patients were randomized to receive either IFN alfa-2b 2 million units per day by subcutaneous (s.c.) injection plus the adjusted daily dose of HU (> 150 x $10^3/\mu l$, 4g; 50-150 x $10^3/\mu l$, 3g; 30-50 x $10^3/\mu l$, 2g;

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