High White Cell Count At Presentation In Children With Acute Lymphoblastic Leukaemia

Editor - Acute lymphoblastic leukaemia (ALL) is the commonest malignancy in children. At present, there is no published data on childhood ALL in Malaysia. The aim of this study was to look at the clinical features at presentation of children with ALL. We retrospectively reviewed the clinical profile of children with ALL presenting to Hospital Universiti Sains Malaysia in Kota Bharu between January 1991 and December 1997. Children under the age of 12 years with a diagnosis of ALL were included. The diagnosis was made on bone marrow examination, using morphology, cytochemistry and immunophenotyping.

During the 7 year study period, 65 cases of ALL were seen. The ethnic origin was Malay in 62 cases, Thai in 2 and Chinese in 1. The most common paternal occupation (54%) was farming, with an average monthly income of RM300. There were 38 males and 27 females, with a ratio of 1.4:1. The age range was from 3 months to 11 years and 8 months, with a mean of 51 months. There were 4 infants and 5 children over the age of 10 years. One child had Down syndrome.

The average duration of symptoms was one month. The commonest symptoms were fever, pallor and bleeding. The commonest signs were lymphadenopathy, hepatomegaly and splenomegaly. Central nervous system or testicular involvement were found in 1.5% of children at presentation. The FAB type was L1 in 60 %, L2 in 37% and L3 in 3%. Immunophenotyping results were available in 47 cases. Twenty-one per cent were T-cell in origin. Ninety-four per cent of the B-lineage cases were CD10 positive.

The mean haemoglobin and platelet count at presentation were 6g/dl and 54 x 10^9/l respectively. The mean white cell count (WCC) was 95 x 10^9/l. Forty-eight per cent of children had a presenting WCC of more than or equal to 50 x 10^9/l. Thirty-four per cent had hyperleucocytosis (WCC >100 x 10^9/l).

It is reported in the United States that 20% of children at presentation have a WCC of >50 x 10^9/l and 10 - 15% have hyperleucocytosis[1]. Our figures are twice as high as this, and also differ markedly from Singapore[2] (21% and 8% respectively). Of the 31 children with counts >50 x 10^9/l, 5 did not have immunophenotypic data, 6 were T-cell in origin, and 2 were infants. This leaves 18 children who were B-lineage CD10 positive ALL: of these, 53% had hyperleucocytosis and the child with the highest WCC (600.5 x 10^9/l) was in this group. High leucocyte counts at diagnosis are known to be associated with a poor prognosis[3]. The reason for our high counts is unclear. It is not due to a high proportion of T-cell ALL or infant leukaemia and there appears to have been no undue delay in presentation, although most of our patients are from a poor socio-economic background. We lack cytogenetic information which could provide helpful clues.

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