Correspondence

Height and lymphoblastic leukaemia

Sir,

Broomhall et al., have shown that in their series of children with untreated lymphoblastic leukaemia (ALL) the mean height was significantly greater than that of the normal population. They suggested that the disease may occur in constitutionally tall children, or that there may be an aberration of growth associated with leukaemia that may in turn be related to abnormal concentrations of growth hormone or somatomedin.

There is perhaps an alternative explanation. It has been shown that ALL of childhood occurs with greater incidence in children from upper social class families. It is also known that upper social class children are generally taller than those from lower social class backgrounds. For example Goldstein, in an analysis of a large cohort of 7 year old British children found that children from social class 1 and 2 were on average 3.3 cm taller than those from social class 5. This difference may well be sufficient to explain the observed increase in height of the leukaemic children in the series of Broomhall et al. Without more information it is impossible to analyse their data further.

We have examined our own data and did not find any significant increase in height in leukaemic children at presentation. We analysed the heights of 117 children with ALL diagnosed between 1975 and 1981 and used the same restrictions as Broomhall et al., namely boys aged 0–12 years and girls aged 0–10 years. We used the growth data for Australian children provided by the National Health and Medical Research Council for comparison. The standard deviation score for the whole ALL group was +0.19 (Figure), and was +0.39 for the 59 boys, and −0.02 for the 58 girls. The mean age of the children was 4.62 years. For the 101 cases in which it was possible to allocate a social class on the basis of the father’s occupation, no correlation was found between social class and standard deviation score.

Oakhill and Mann noted that Asian children with ALL living in England, who were generally of lower socioeconomic status than native white children, were significantly shorter than the white children with ALL. The findings of Broomhall et al. are certainly of interest but their significance remains unclear, especially as others have found that children with ALL are notably shorter than normal at the time of diagnosis.

References


W R McWhirter, K M McWhirter and D Taylor
Queensland Childhood Malignancy Registry,
Department of Child Health,
Royal Children's Hospital,
Herston QLD,
Australia 4029

Dr Lilleyman comments:

Drs McWhirter, McWhirter, and Taylor suggest that our unexplained finding of increased height in children with lymphoblastic leukaemia may be caused by an atypical distribution of the social classes among them. This raises two questions. Was there such a bias in UKALL II, and if so was it responsible for the children being taller? The first we cannot answer as the relevant information is not available to us. If, however, there were more children

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Figure  Standard deviation score for height of 117 children with lymphoblastic leukaemia.