Time trend: The mighty teacher

Biological heterogeneity defines and dictates the saga of pediatric acute lymphoblastic leukemia (ALL) with implications on treatment and outcome.[1] As compared to published western literature, the relative frequency of individual types of ALL has been shown to be different in a resource-limited setting like that of India and Egypt.[2]

Patient characteristics from three major centers in India treating pediatric ALL were published in 2005 and showed a significant difference in the number of patients presenting with pre-T ALL [Tata Memorial Hospital (TMH), Mumbai – 20.7% of 652; All India Institute of Medical Sciences (AIIMS), Delhi – 31.8% of 228; and Cancer Institute (CI-WIA), Chennai – 43.1% of 168 patients].[3] To put these figures into perspective, one needs to consider the drainage area that these individual centers cater to. TMH receives patients from all over India as well as a few neighboring countries. Similar is the case with AIIMS. On the other hand, CI-WIA is a regional cancer centre serving a population that is more homogenous. Hence, it is expected that genetic heterogeneity among their patients will not be as diverse, reflecting limited external influences.

These facts put CI-WIA in a very advantageous position to observe and report the changing trend in the frequencies of major immunophenotypes of pediatric ALL patients from a selective population as published in this issue of Indian Journal of Cancer by Kamalalayam et al. The authors have divided the years bygone into three distinct eras: from 1989 to 1992 (n = 72), from 1993 to 2000 (n = 195) and from 2001 to 2009 (n = 372), wherein the corresponding frequencies of pre T-ALL are 52%, 34% and 29%, respectively, and the frequencies of pre B-ALL (CALLA) reported are 25%, 35% and 45%, respectively. The authors have correlated the changing socioeconomic and environmental factors prevailing in the locality and have suggested a possible link.

Access this article online	
Quick Response Code:	Website: www.indianjcancer.com
	DOI: 10.4103/0019-509X.84930

Seemingly contrary results were reported by Magrath et al in their 2005 publication where the incidences of pre T-ALL in three different eras of 1986–1989, 1990–1993 and 1994–1997 were 20.1%, 20.5% and 21%, respectively, in patients presenting to TMH, Mumbai.[3] Lack of literature from various other centers in India evaluating this time trend confounds the picture further. The true impact of the improvement in socioeconomic state on characteristics of disease presentation can only be ascertained by an epidemiologically correct assessment design, including complete case ascertainment, representative population-based comparable controls and individual-based measure of socioeconomic status. In the past, a similar, well-designed exercise to study the effect of socioeconomic status on ALL by United Kingdom Childhood Cancer Study group (UKCCS) dispelled the myth that ALL is a disease of the rich.[4]

Furthermore, it would be interesting to take into consideration the role played by advances in immunophenotyping, over the last 20 years, which would help us make a more accurate subtyping of ALL. The article by Kamalalayam et al also does not state whether their report includes all consecutive pediatric ALL cases presenting to their institute. If the report is indeed of only that subset of patients who were registered to receive treatment at their center, the representation of individual types of ALL cannot be taken as universal even for a single institute.

The evolution of treatment for ALL and its outcomes is one of the sweetest success stories in the world of medicine. But let us not forget that this success was made possible by formation of cooperative groups and the conduct of sequential clinical trials leading to stepwise increments in knowledge and survival rates. The manuscript of Kamalalayam et al is commendable and in the right direction. At the same time, let us remember that being faced with the genetic, environmental and biological diversity in a country as large and heterogeneous as India, the words of Robert Frost come alive – We have miles to go before we sleep.

Vora T
Department of Medical and Pediatric Oncology, Tata Memorial Hospital, Parel, Mumbai,India

Correspondence to: Dr. Tushar Vora, E-mail: tusharsvora@yahoo.com

References

1. Gale RP, Hoelzer D, editors. Acute lymphoblastic leukemia. New York; Wiley-Liss; 1990.
2. Kamel AM, Assem MM, Jaffe ES, Magrath I, Aboul Enein MI, Hindawy DS. Immunological phenotypic pattern of acute lymphoblastic leukemia in Egypt. Leuk Res 1989;13:519-25.
3. Magrath I, Shanta V, Advani S, Adde M, Arya LS, Banavali S, *et al*. Treatment of acute Imphoblastic leukaemia in countries with limited resources: Lessons learnt from use of a single protocol in India over a twenty year period. Eur J Cancer 2005;41:1570-83.
4. Smith A, Roman E, Simpson J, Ansell P, Fear N, Eden T. Childhood leukaemia and socioeconomic status: Fact or artifact? A report from the United Kingdom childhood cancer study. Int J Epidemiol 2006;35:1504-13.

How to cite this article: Vora T. Time trend: The mighty teacher. Indian J Cancer 2011;48:308-9.

News