Outcome of children with Acute Lymphoblastic Leukemia from three urban centers of low middle income country

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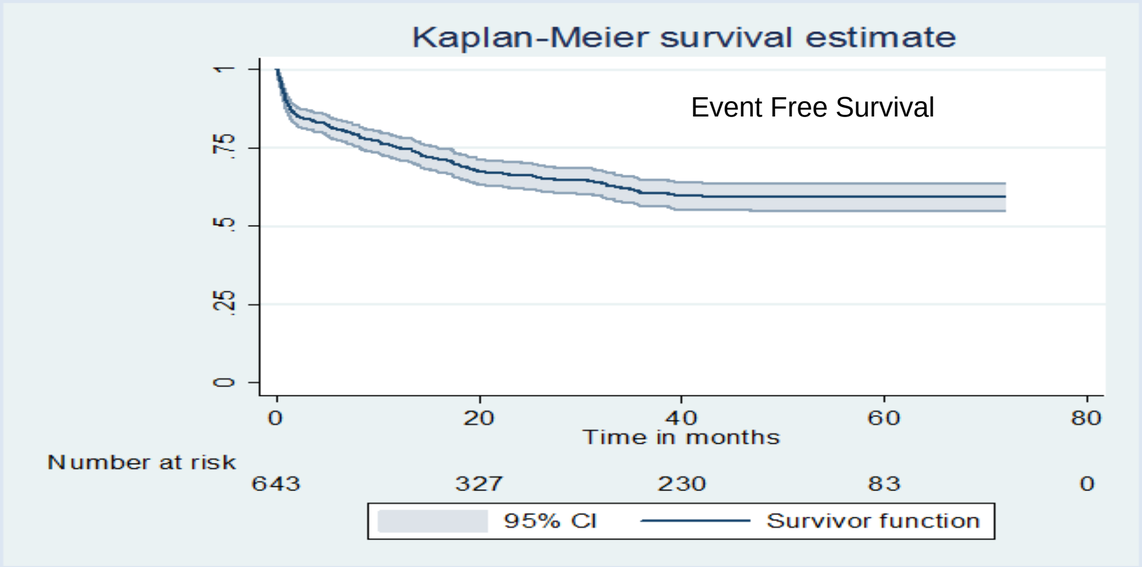
Introduction

Treatment outcome for children with ALL in developing countries is below that reported for more developed countries. It has also been noted that factors that impact outcome in LMIC differ from those seen in more developed countries. In this study we report the treatment outcome of a cohort of ALL patients form Pakistan. Presenting features and induction outcome for this group of patients have been previously reported.

Materials and Methods

Pediatric patients (<18 years) diagnosed with ALL at three children's cancer centers in Karachi during the period September 2009 to August 2012 were prospectively followed. Uniform diagnostic criteria and treatment strategies were applied.



Results

Of the 642 patients enrolled, 66% were males, B-ALL was diagnosed in 78.5%, while 17.5% had T-ALL; 28.8% had a WBC >50 × 10(9) /L. With a median follow up of 20 months, the overall survival (OS) was 72% for all patients. Treatment abandonment was a major cause of treatment failure, and when this was included as a mortality event the OS was 50%. Of the 499 who completed induction chemotherapy only 450 achieved CR; 68 of these subsequently relapsed at a median of 18 months from diagnosis, resulting in a relapse free survival of 56%. Event free survival, with abandonment included as an event, was 40%. On univariate analysis, survival was found not to be associated with age or gender and worse outcome was significantly associated with WBC>50K, T-ALL and CNS-2 status.

Conclusion

The outcome for children with ALL in Karachi is suboptimal. Risk factors impacting outcome includes common associations, but also some unique variables such as treatment abandonment and CNS-2 status.