

Complete Remission Rates and Survival of Adult Acute Lymphoblastic Leukaemia Patients Following Remission Induction in a Tertiary Care Cancer Referral Centre in Sri Lanka

Abstract

Introduction: Adult Acute Lymphoblastic Leukaemia (ALL) patients in Sri Lanka are managed with chemotherapy only regimens and response to treatment is assessed only morphologically. The induction phase of chemotherapy is the key to managing ALL. There is no data in this resource-limited setting on complete remission (CR) rates, survival or induction mortality (IM).

Objectives: The primary objective of this study was to describe the CR rates on day 8 and at the end of induction, to establish the overall survival (OS), disease-free survival (DFS), induction, IM and common complications during the induction phase of treatment.

Methods: This was a prospective, observational, analytical, cohort study. All newly diagnosed, denovo, adult ALL patients above 15 years of age, admitted to the National Cancer Institute, Maharagama, the main tertiary care cancer referral centre in the country, from 01st of April 2016 to 31st of March 2017 were followed up for 2 years after the last patient had completed induction treatment.

Results: A total of 73 adults were diagnosed with ALL and 3 patients were not fit for chemotherapy. The median age was 29 years. Twenty-nine patients (39.72%) were between 15-24 years. Male to female ratio was 1.8:1. Forty patients (54.8%) were of B-ALL phenotype of whom Philadelphia (Ph) chromosome was tested only on 11 patients. CR on day 8 was 74.24% and on day 29 was 92.15%. IM was 44.62% accounting for 51.22% of total mortality for 2 years of follow up. Neutropenic fever and sepsis were by far the commonest complications resulting in 62.07% deaths during induction with sepsis causing 100% mortality. The average delay in administering induction therapy was 9 days (SD=11.09) and 18.75% experienced a delay >2 weeks. Two year OS was 35.9% with a DFS of 34.38%. Age <35 years, male gender, WBC count <30 in B-ALL and <100 in T-ALL, T cell phenotype and CR on day 8 and day 29 bone marrow assessments showed a positive correlation with survival although not statistically significant.

Conclusions: Adolescents and young adults comprise a major proportion of adult ALL and a considerably larger proportion of T cell phenotype than that mentioned in literature was found. Ph chromosome was tested only in a minority of patients and the trend towards a poor prognosis among B-ALL patients can be due to Ph+ ALLs not being detected and appropriately treated with targeted therapy. Although CR rates at the end of induction reached high levels, OS was considerably low with a significantly high IM, possibly due to limited diagnostic and isolation facilities and critical and supportive care available at the institute. An island wide prospective database on ALL patients is recommended.