

Clinical Profiles and Survival of Children with Acute Lymphoblastic Leukemia in South West Uganda

Stella Zalwango¹, Peters Kalubi¹, Siyadora Ankunda², and Barnabas Atwiine¹

¹Mbarara University of Science and Technology Faculty of Medicine

²Mbarara National Referral Hospital

April 16, 2024

Abstract

Background: Acute lymphoblastic leukemia (ALL) is the commonest childhood cancer globally. We described the clinical features at diagnosis and established the overall survival of children diagnosed with ALL at our Pediatric Cancer Unit. Methods: In August 2020, we retrospectively studied children <16 years diagnosed with ALL over a 4-year period (June 2016 to May 2020) at Mbarara Regional Referral Hospital (MRRH) in south west Uganda. Frequencies and proportions of baseline clinical features and treatment outcomes were described. Kaplan-Meier analysis and Cox proportional hazard regression model were performed to estimate overall survival and identify its predictors respectively. Ethical approval was obtained from Research Ethics Committee of Mbarara University of Science and Technology. Results: Within the 4-year period, 301 children were diagnosed with cancer; 51 (16.9%) with ALL. Forty-four (86.3%) presented with fever, 28 (54.9%) cough, 21(41.2%) bleeding tendencies, 20(39.4%) limb pains and 8(15.7%) abdominal distension. Forty-four (86.3%) had pallor, 39(76.5%) lymphadenopathy, 37(72.5%) hepatosplenomegaly, 18(35.3%) pyrexia, 12(23.5%) bone tenderness and 11(21.6%) petechia. Thirty (58.8%) children presented with leukocytosis (WBC>12x10⁹/L), all the children had anemia (Hb <11.0g/dl) and 48 (94.1%) had thrombocytopenia (<150.0x 10⁹/L), . Thirty-three (64.7%) children completed induction chemotherapy; 27 (81.8%) with remission. Overall one year survival was 42.5%. Remission failure was associated with poor survival. Conclusions and Recommendation: Children with ALL present with non-specific clinical features that mimic common childhood infections and its outcomes are low at our unit. ALL should form part of the differential diagnosis in children with fever, pallor, bleeding, or leukocytosis, anemia and thrombocytopenia.

Hosted file

Manuscript final.docx available at <https://authorea.com/users/737597/articles/712455-clinical-profiles-and-survival-of-children-with-acute-lymphoblastic-leukemia-in-south-west-uganda>

Hosted file

Table 1.docx available at <https://authorea.com/users/737597/articles/712455-clinical-profiles-and-survival-of-children-with-acute-lymphoblastic-leukemia-in-south-west-uganda>

Hosted file

Table 2.docx available at <https://authorea.com/users/737597/articles/712455-clinical-profiles-and-survival-of-children-with-acute-lymphoblastic-leukemia-in-south-west-uganda>

Hosted file

Table 3.docx available at <https://authorea.com/users/737597/articles/712455-clinical-profiles-and-survival-of-children-with-acute-lymphoblastic-leukemia-in-south-west-uganda>

FIGURE 1 Flow chart summarizing patient numbers in the study.

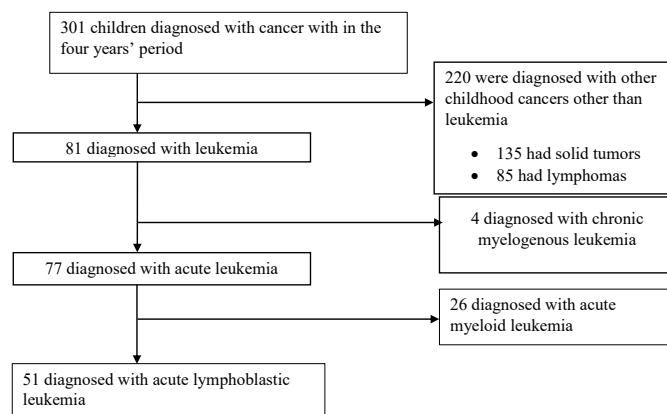


FIGURE 2 Outcomes of induction of remission among children with acute lymphoblastic leukemia at MRRH cancer unit

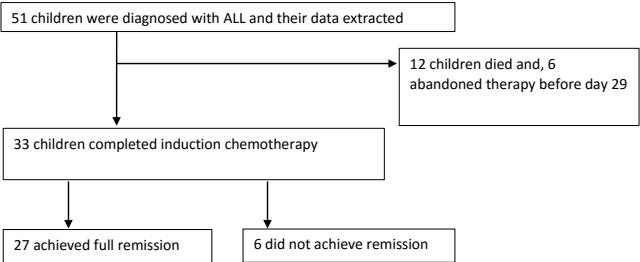


FIGURE 3 Kaplan-Meier Estimate (1 – year overall survival) of children diagnosed with acute lymphoblastic leukaemia at MRRH cancer unit

