

Prognostic factors of adult acute lymphoblastic leukemia and their impact on treatment outcome and long term survivals

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Abstract

Aim: To assess the prognostic factors of our adult ALL patients and their correlation to long term leukemia free (LFS) and overall (OS) survivals.

Patients and methods: Hundred and fifteen patients were included, they were stratified according to their prognostic factors into standard (SR), high (HR), and very high risk (VHR) groups.

Treatment plan:

Induction phase I: Vincristine, Doxorubicin, L-Asparaginase and prednisone with intrathecal MTX. Patients that attained CR were subjected to cranial irradiation and intrathecal MTX.

Phase II induction: Cyclophosphamide and Cytarabine.

Consolidation phase I: Vincristine, Doxorubicine and prednisone with Triple intrathecal.

Phase II consolidation: Cyclophosphamide, Cytarabine and Etoposide with triple intrathecal.

Maintenance therapy: 6 mercaptopurine and methotrxate. For patients below 50 years with HR and VHR, one cycle of (HAM regimen) was added between induction and consolidation. VHR patients were referred to transplantation in CR1.

Results: The median age was 25 years. The study included 73 males and 42 females. Immunophenotypes were pro B (7%), CALL/Pre B (56.5%) and T phenotype (20.9%). The BCR-ABL and ALL1-AF4 fusion gene transcripts were positive in 15 and 4 of the precursor B cases respectively. Forty five patients were SR while 55 and 15 were HR and VHR respectively. CR was achieved in 76.5%. CR of the SR was 88.9% versus 70.9% and 60% for HR and VHR respectively. Median OS was 14 months. Survival at 60 months was 28.24 %, it was 34%, 21% and 20.7% for SR, HR and VHR respectively. There was significant survival difference between pro-B, Pre B /CALL and T phenotypes. Median time to progression was 16 months. At 60 months, 35.2% were still in remission. Time to progression was 44, 12 and 14 months for the SR, HR and VHR groups respectively, While it was 3, 17 and 16 months for Pro-B, pre-B/CALL, and T phenotypes respectively.

Conclusion: The CR, LFS and OS of the SR are satisfactory while those of the HR and VHR are still in need to be improved; whether we can achieve this by higher post remission chemotherapy, targeted therapy or stem cell transplantation remains to be investigated.