Long-term results of the treatment of adolescents and adults with acute lymphoblastic leukemia with a pediatric-inspired regimen delivered on an outpatient basis: A single institution experience.

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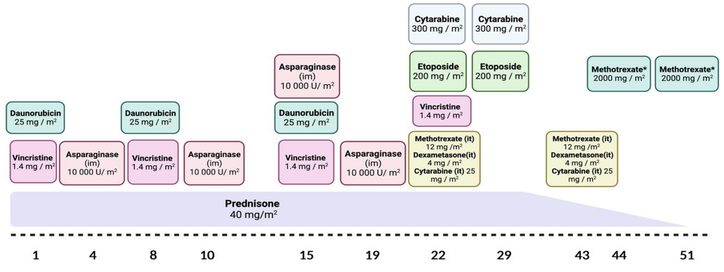
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Background

Nowadays, long-term survival is achieved in around 80% of children one to 10 years old with acute lymphoblastic leukemia (ALL); however, cure rates for adolescents and young adults (AYA) and older adults remain relatively low, at only 40% to 50%. Adult regimens are typically less intense than their pediatric counterparts are because adults generally do not tolerate the dose intensity used in ALL regimens as well as children do. Adolescents with ALL have a better outcome when treated with pediatric-inspired regimens (PIR) compared to adult protocols. There are also reports suggesting improved outcomes for adult patients when treated with ALL pediatric-inspired combination chemotherapy (PICC) regimens. In low- and middle-income countries (LMIC) the selection of chemotherapy regimens to treat leukemias must also consider economic factors and the supportive care available for the patients. To this effect, we have designed a modification of the *St. Jude's TOTAL XI* combined chemotherapy program, with the goal of delivering it on an outpatient basis.

Materials & Methods

126 adolescent and adult patients with ALL were treated in a 37-year period with a pediatric inspired combined chemotherapy (PICC) schedule, delivered on an outpatient basis and based on the St. Jude´s TOTAL XI pediatric protocol employing vincristine, prednisone, asparaginase, daunorubicin, etoposide, cytarabine, methotrexate, mercaptopurine and triple intrathecal therapy.



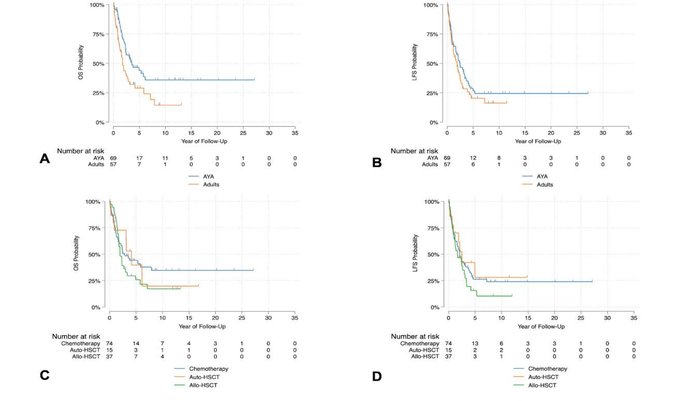
Salient features of the induction / consolidation treatment.
im = intramuscular; it = intrathecal.
* Given with folinic acid rescue as consolidation of remission treatment.

Conclusions

In AYAs and adult patients with ALL, the use of an asparaginase-containing PICC delivered on an outpatient basis renders acceptable results, better than those obtained in similar socioeconomic circumstances employing adult-oriented schedules. Additional studies are needed to assess the usefulness of these PICC treatments in adult individuals with ALL treated in underprivileged circumstances, such as those prevailing in LMIC.

Discussion

80% of patients were able to receive the initial seven-week period of induction / consolidation fully as outpatients and 77% achieved a complete remission. The median overall survival (OS) for the total population was 30 months. In adolescents and young adults (AYAs), the median probability of overall survival (OS) was 44 months, whereas the 5-year OS was 48%, whereas in adults, the median probability of OS was 24 months, and the 5-year OS was 32%. Patients with T-cell ALL did worse than those with a B cell phenotype (OS at 5 years 17 *versus* 40%, respectively).



A) Overall survival (OS) based on type of therapy received, B) Leukemia free-survival (LFS) in adolescents and young adults (AYA), and adults, treated with a pediatric-inspired combined chemotherapy program, C) Overall survival (OS) in adolescents and young adults (AYA), and adults, treated with combined chemotherapy only, autologous transplantation or allogeneic transplantation and, D) LFS according to the type of therapy.