

High intensity protocols implementation for acute lymphoblastic leukemia in a middle-income country setting: Multi-center experience in Cali, Colombia

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Background: Acute Lymphoblastic Leukemia (ALL) is the most common and most curable childhood cancer. However, high variability of supportive care programs in low-and-middle income countries for the implementation of intensive treatments for acute lymphoblastic leukemia (ALL) persist and have been related to disparities in survival. In Cali, the third-largest city in Colombia, a protocol (T-15) inspired in the St. Jude's Total XV's protocol was implemented in December 2013. We describe ALL survival pre and post implementation of this protocol in Cali, Colombia.

Methods: We prospectively collected data from Cali's Childhood Cancer Surveillance System (VIGANCER), supported by "My Child Matters" and Colombian Association of Pediatric Hematology and Oncology (ACHOP). We included patients <15 years with newly-diagnosed ALL. We compared 5 year overall (OS) and event-free survival (EFS) from 2009-2013 (cohort A [CA]) to 2013-2018 (cohort B [CB]). We used Kaplan-Meier and Cox regression methodology for survival analyses and covariate adjusting.

Results: Six-hundred-and-thirty-four patients were included, CA 237, and CB 397. There were no significant differences between cohorts in age, sex, residence, insurance groups (public, semi-private), cell lineage type, testicular involvement,

or risk groups. Five-year OS between CA versus CB improved from 62% to 71% (CA vs. CB; $p < 0.01$) and 5-year EFS increased from 53% to 72% (CA vs. CB; $p < 0.01$). The OS and EFS gap between semi private and public health insurance decreased by 50% between cohorts, but still remained significant in multivariate analyses.

Conclusions: Both 5-year OS and EFS significantly improved in patients with ALL between these cohorts. This improvement could be attributed, in part, to high intensity protocols implementation, as well as enhancements in cancer care in Cali over the last 5 years, including expanded access to high-quality hospitals for patients with public insurance coverage, improved supportive care, better social support, and newly-implemented care navigation services.

Speaker Biography

Ardila J has completed his fellowship of pediatric hematology/oncology at the age of 28 years from National University, Bogotá, Colombia. He is the president of board of directors of Pohema Foundation, Cali, Colombia and pediatric hematologist in Clinica Imbanaco, Cali, Colombia. He has over 10 years working for Colombian Pediatric Cancer and is member of VIGANCER working group awarded with the 2021 "Developing Paediatric Oncology Programme" SIOP Award.

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