

Survival outcomes of a population-based cohort of adolescent and young adult (AYA), acute lymphoblastic leukemia (ALL) patients in Ontario, Canada: The IMPACT Cohort

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Introduction

Adolescents and young adults (AYA) are an understudied population in cancer research. The Initiative to Maximize Progress in Adolescent and Young Adult Cancer Therapy (IMPACT) cohort includes Ontario individuals aged 15-21 years, diagnosed with a malignancy during 1992-2011. This cohort contains a rich source of patient, disease, and treatment data.

Objectives and Approach

The IMPACT cohort was created using chart review and linkages to population-based health services databases. The cohort is comprised of AYA with a primary diagnosis of acute leukemia, Hodgkin lymphoma, non-Hodgkin lymphoma, sarcoma, or testicular cancer. For the current study, we focused on acute lymphoblastic leukemia (ALL) patients, and examined survival outcomes of those treated at pediatric vs adult centers, with adult vs pediatric protocols. We assessed 5-year event-free survival (first of relapse, progression, secondary malignant neoplasm, or death) and overall survival.

Results

The IMPACT cohort contains 2,963 patients, of which 152/271 ALL patients were treated at adult centers. The 5-year event-free survival (EFS \pm standard error) among those treated at a pediatric vs. adult center was 72% \pm 4% vs. 56% \pm 4% ($p = 0.03$), respectively. The 5-year overall survival (OS) was 82% \pm 4% vs. 64% \pm 4% (p

Conclusion/Implications

ALL patients treated with a pediatric protocol at a pediatric center experienced better, crude survival outcomes compared to those at an adult center. The IMPACT cohort offers the opportunity to study a myriad of questions on different cancer groups, with the ultimate goal of improving outcomes among the AYA population.

