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Editorial

As co-editors of this special issue of *Seminars in Hematology*, we are pleased to give a brief introduction to this issue that focuses on many of the recent, significant therapeutic advances that have occurred in treatment for adults with Acute Lymphoblastic Leukemia. Indeed, this is a very exciting time of therapeutic progress and improved molecular/genetic insights and prognostication! The topics that were chosen for this issue highlight many of these advances. Most excitingly, new immune targeting approaches have revolutionized treatment for patients with ALL. The development of new antibody conjugates, bi-specific antibodies (BiTEs) and genetically modified T-cells (CAR-T) have changed the paradigm for treatment of relapsed ALL and have resulted in significant improvements in survival rates. Several of the articles focus on how and when these new approaches to treatment of relapsed disease might best be used. We have also asked our contributors to introduce how these exciting new agents are being employed to eradicate minimal residual disease in the frontline setting, thereby having the potential to further improve treatment outcomes.

During the past decade, significant survival improvements have also been achieved in younger adults (up to age 45- 50 years) with ALL by adoption of pediatric regimens, as well as for all adults with Philadelphia-chromosome positive ALL with the incorporation of second, and now, third generation ABL kinase inhibitors into initial therapy. In this issue, the articles provide detailed discussion on how these survival benefits have been achieved and important evaluations of the challenges to further therapeutic improvements for patients. Covering B-cell ALL, T-cell ALL and Ph+ ALL, topics range from ways to mitigate treatment-related toxicities to how to introduce more potent therapeutics into frontline treatment to further improve survival rates, and evaluation of benefit/risk of allogeneic transplant in first remission with incorporation of these new agents. On a particularly exciting note, new approaches to treatment for our highest risk patients, our older adults with ALL, is evaluated in a separate chapter with a new emphasis on how the new targeted antibodies might afford a “less is more” benefit in survival!

Finally, significant new biologic insights into ALL pathogenesis have been obtained in the last decade. While the recent, impressive contributions to ALL disease biology and leukemogenesis that have been described are beyond the scope of this issue, two of the articles focus on how genomic data, including polymorphisms that impact drug metabolism, can be used to understand and potentially mitigate treatment related toxicities and how new molecular techniques for evaluation of minimal residual disease are being combined with genomic insights to improve and refine prognostication and inform therapeutic approach for all patients with ALL.

We hope that you find these topics exciting and enriching. We are so grateful to our accomplished contributors who have helped to illuminate the significant progress that has been made in this challenging disease!

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