Preface

Acute Lymphoblastic Leukemia – Quo Vadis?

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Guest Editors

Acute lymphoblastic leukemia (ALL) is one of the most challenging malignant diseases in adults with respect to the intricacies of clinical presentation, diagnosis, and treatment. This preface previews the articles that follow, touching on current treatment strategies for ALL, presenting the controversies regarding the role of allogeneic stem cell and bone marrow transplantation (BMT) for ALL in first remission, and concluding with a look toward the future and a discussion concerning new data about the leukemia stem cells (LSCs) in this disease and how this knowledge will lead to new therapeutic strategies.

CURRENT ACUTE LYMPHOBLASTIC LEUKEMIA TREATMENT

Table 1 outlines the current treatment approaches for adults with ALL. Many of these approaches have been adapted from the successful treatment regimens developed for children with this disease. The article by Pui and colleagues, elsewhere in this issue reviews in detail the state-of-the-art treatment strategies for children with ALL. The survivorship in pediatric ALL now exceeds 80%. As a result, pediatricians are now turning more of their attention to concerns about sequelae of their treatment, as discussed in the article by Nathan and colleagues, elsewhere in this issue.

Overall, the outcome in adults with either B-cell or T-cell ALL with any of the approaches outlined in **Table 1** results in approximately 30% to 40% 5-year survival.[1] The main achievements in the last few years have been the inclusion of imatinib mesylate (Gleevec) and other tyrosine kinase inhibitors in Philadelphia-positive ALL (see article by Ravandi and colleagues, elsewhere in this issue), the approval of nelarabine (Arranon) for T-ALL (see article by DeAngelo and colleagues, elsewhere in this issue), the pediatric approach to treat ALL in adolescents and young adults (see article by Ribera and colleagues, elsewhere in this issue), and the inclusion of anti-CD20

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Table 1
Current and future adult ALL treatments

Characteristics	B	T	Ph+	Burkitt
Treatment	BFM-like regimen: Induction with VCR, PRED, daunorubicin, and L-ASP; Early intensification with CTX, ARA-C, 6-MP, VCR; Central nervous system prophylaxis with intrathecal MTX with either cranial irradiation or high-dose MTX and ARA-C; Late intensification with doxorubicin, VCR, DEXA, CTX, 6-TG and ARA-C; Maintenance with VCR, PRED, 6-MP and MTX to complete 24 months. Hyper-CVAD regimen: Alternating courses of CTX, VCR, doxorubicin and DEXA with MTX and high-dose ARA-C; Central nervous system prophylaxis includes intrathecal chemotherapy; Maintenance with VCR, PRED, 6-MP and MTX to complete 24 months.		Addition of imatinib to any of the approaches described for B-lineage diseases	CTX, VCR, doxorubicin, high-dose MTX and intrathecal therapy alternating with ifosfamide, VP-16, high-dose ARA-C, and intrathecal therapy
New aspects	Anti-CD20 Ab[a]; different regimen for AYA[d]	Nelarabine[b]; different regimen for AYA[d]	New TKIs[c]	Anti-CD20 Ab[a]

Abbreviations: Ab, antibody; ARA-C, cytosine arabinoside; AYA, adolescents and young adults; BFM, Berlin-Frankfurt-Münster; CTX, cyclophosphamide; CVAD, cyclophosphamide, vincristine, doxorubicin and dexamethasone; DEXA, dexamethasone; L-ASP, L-asparaginase; MTX, methotrexate; 6-MP, 6-mercaptopurine; PRED, prednisone; 6-TG, 6-thioguanine; TKI, tyrosine kinase inhibitors; VCR, vincristine; VP-16, etoposide.

[a] See article by Thomas and colleagues, elsewhere in this issue.

[b] See article by DeAngelo and colleagues, elsewhere in this issue.

[c] See article by Ravandi and colleagues, elsewhere in this issue.

[d] See article by Ribera and colleagues, elsewhere in this issue.

Data from Cavalli F, Hansen HH, Kaye SB, editors. The textbook of medical oncology, 4th edition. London: Informa Healthcare; 2009.

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