Acute Lymphoblastic Leukemia and Lymphoblastic Lymphoma (ALL) – Adult

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1 Age ≥ 18 years old
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PATIENT PRESENTATION1,2

Philadelphia negative precursor B (Pre B) lymphoblastic leukemia/lymphoma

CD19, CD10 (±), CD20 (±), CD22 (±)

MPO (-), TdT (+)

BCR-ABL (-)

TREATMENT

Age ≥ 60 years
- Consider clinical trial3:
  - Mini-HCVD plus inotuzumab ozogamicin4 plus blinatumomab with or without rituximab5

Age 18 - 59 years
- Hyper-CVAD with or without rituximab6 or
  - Consider clinical trial3:
    - Hyper-CVAD plus inotuzumab ozogamicin plus blinatumomab with or without rituximab or ofatumumab6

ASSESSMENT OF RESPONSE

Age ≥ 60 years
- Consider clinical trial3:
  - Mini-HCVD plus inotuzumab ozogamicin4 plus blinatumomab with or without rituximab5

Age 18 - 59 years
- Hyper-CVAD with or without rituximab6 or
  - Consider clinical trial3:
    - Hyper-CVAD plus inotuzumab ozogamicin plus blinatumomab with or without rituximab or ofatumumab6

ASSESSMENT OF RESPONSE

Complete remission7?

Yes
- Consolidation/maintenance
- Blinatumomab or inotuzumab ozogamicin

No
- Salvage therapy clinical trial3
  - Mini-HCVD plus inotuzumab ozogamicin4 plus blinatumomab
  - Chimeric antigen receptor (CAR) T-cell therapy
  - Blinatumomab plus PD1 inhibitor
  - Subcutaneous blinatumomab

POST-REMISSION THERAPY/MINIMAL RESIDUAL DISEASE

Surveillance

1 See Physical Activity, Nutrition, and Tobacco Cessation algorithms; ongoing reassessment of lifestyle risks should be a part of routine clinical practice
2 Consider MD Anderson approved biomarkers
3 See Leukemia Clinical Trials
4 Mini-HCVD (cyclophosphamide and dexamethasone at 50% dose reduction, no anthracycline, methotrexate at 75% dose reduction, cytarabine at 0.5 g/m² for 4 doses) plus inotuzumab ozogamicin
5 Rituximab if CD20 ≥ 20%
6 Hyper-CVAD (hyper-fractionated cyclophosphamide, vincristine, doxorubicin, dexamethasone); rituximab if CD20 ≥ 20%
7 Failure after induction with hyper-CVAD based regimen means no response after 2 cycles of chemotherapy

Approved by the Executive Committee of the Medical Staff on 02/23/2021
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PATIENT PRESENTATION1,2

Philadelphia chromosome (Ph) positive acute lymphoblastic leukemia

CD19, CD10 (±), CD20 (±), CD22 (±)
CD13 (±), CD33 (±), CD117 (-)
MPO (-), TdT (+)
t(9;22)(q34;q11.2), BCR-ABL (+)

TREATMENT

Age ≥ 60 years
- Hyper-CVAD plus TKI with or without rituximab3 or
- Consider clinical trial4:
  - Hyper-CVAD plus ponatinib with or without rituximab3 or
  - Blinatumomab plus ponatinib or
  - Inotuzumab ozogamicin plus bosutinib or
  - Mini-HCVD5 plus ponatinib plus blinatumomab

Age 18 - 59 years
- Hyper-CVAD plus dasatinib with or without rituximab3 or
- Consider clinical trial4:
  - Hyper-CVAD plus ponatinib with or without rituximab3 or
  - Mini-HCVD5 plus ponatinib plus blinatumomab
  - Blinatumomab plus ponatinib

ASSESSMENT OF RESPONSE

Complete remission6,7?

Yes
- Blinatumomab or
- Consolidation/maintenance or
- Allogeneic SCT

No
- Assess ABL mutation status
  - Consider clinical trial4
  - Salvage therapy:
    - Blinatumomab plus ponatinib
    - Mini-HCVD5 plus ponatinib plus blinatumomab
    - Inotuzumab ozogamicin plus bosutinib
    - Venetoclax plus ponatinib
    - Chimeric antigen receptor (CAR) T-cell therapy

POST-REMISSION THERAPY

Surveillance

TKI = tyrosine kinase inhibitors

1 See Physical Activity, Nutrition, and Tobacco Cessation algorithms; ongoing reassessment of lifestyle risks should be a part of routine clinical practice
2 Consider MD Anderson approved biomarkers
3 Hyper-CVAD (hyper-fractionated cyclophosphamide, vincristine, doxorubicin, dexamethasone); rituximab if CD20 ≥ 20%
4 See Leukemia Clinical Trials
5 Mini-HCVD (cyclophosphamide and dexamethasone at 50% dose reduction, no anthracycline, methotrexate at 75% dose reduction, cytarabine at 0.5 g/m² for 4 doses)
6 Failure after induction with hyper-CVAD based regimen means no response after 2 cycles of chemotherapy

Department of Clinical Effectiveness V6
Approved by the Executive Committee of the Medical Staff on 02/23/2021
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PATIENT PRESENTATION\(^1,2\)  TREATMENT  ASSESSMENT OF RESPONSE  POST-REMISSION THERAPY

- Burkitt or Burkitt-like leukemia/lymphoma
- sIg (+), CD20 (+)
- MPO (-)
- TdT (-)
- BCR-ABL (-)
- c-myc (+)
- t(8;14)(q24.1;q32)
- t(8;22)(q24;q11)
- t(2;8)(p12;q24)

\* Hyper-CVAD with rituximab\(^3\)
\* Hyper-CVAD with ofatumumab\(^3\) or
\* EPOCH with ofatumumab\(^3\)
\* Consider clinical trial\(^4\)

Complete remission\(^5,6\)?

Yes
- Consolidation
- Surveillance

No
- Consider clinical trial\(^4\)
- Salvage therapy:
  - EPOCH with ofatumumab\(^3\) or
  - Chimeric antigen receptor (CAR) T-cell therapy
- Surveillance

\(^1\) See Physical Activity, Nutrition, and Tobacco Cessation algorithms; ongoing reassessment of lifestyle risks should be a part of routine clinical practice
\(^2\) Consider MD Anderson approved biomarkers
\(^3\) Hyper-CVAD (hyper-fractionated cyclophosphamide, vincristine, doxorubicin, dexamethasone) plus rituximab
Hyper-CVAD (hyper-fractionated cyclophosphamide, vincristine, doxorubicin, dexamethasone) plus ofatumumab
EPOCH (etoposide, prednisone, vincristine, cyclophosphamide, doxorubicin) plus ofatumumab
\(^4\) See Leukemia Clinical Trials
\(^5\) Failure after induction with hyper-CVAD based regimen means no response after 2 cycles of chemotherapy
\(^6\) See Leukemia Clinical Trials
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PATIENT PRESENTATION1,2

Precursor T lymphoblastic leukemia/lymphoma

CD1 (±), CD3 (±), CD5 (±), CD7 (±), CD4 (±), CD8 (±)
MPO (-)
TdT (+)
BCR-ABL (-)

TREATMENT

Age ≥ 60 years
- Mini-HCVD3 with venetoclax

Age 18 - 59 years
- Hyper-CVAD4 with nelarabine

ASSESSMENT OF RESPONSE

Complete remission5,6

Yes

No

POST-REMISSION THERAPY

- Consolidation/maintenance
- Radiation therapy if mediastinal disease

Surveillance

- Consider clinical trial6
- Salvage therapy

Surveillance

1 See Physical Activity, Nutrition, and Tobacco Cessation algorithms; ongoing reassessment of lifestyle risks should be a part of routine clinical practice
2 Consider MD Anderson approved biomarkers
3 Mini-HCVD (cyclophosphamide and dexamethasone at 50% dose reduction, no anthracycline, methotrexate at 75% dose reduction, cytarabine at 0.5 g/m² for 4 doses)
4 Hyper-CVAD (hyper-fractionated cyclophosphamide, vincristine, doxorubicin, dexamethasone)
5 Failure after induction with hyper-CVAD based regimen means no response after 2 cycles of chemotherapy
6 See Leukemia Clinical Trials
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SUGGESTED READINGS


Continued on next page
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SUGGESTED READINGS - continued


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