Supplemental digital content

Supplementary Table 1.

1. Do you examine bone marrow specimens and issue reports for the initial diagnosis of acute leukemia?
   - Yes, for the initial diagnosis; subsequent testing is sent to another laboratory
   - Yes, for the initial diagnosis and subsequent testing
   - No

2. What clinical information do you routinely include, or always include when known, in the pathology report for the initial diagnosis of acute leukemia? (Select all that apply.)
   - Complete blood count (CBC)
   - Leukocyte differential
   - Coagulation study results, when appropriate
   - History of prior malignancy
   - Family history
   - Predisposing conditions (eg, Down syndrome, bone marrow failure syndrome, chronic hematologic disorders)
   - Confounding factors (eg, B12 or folate deficiency, growth factor therapy)
   - History of predisposing therapies (eg, chemotherapy and radiation)
   - Current medication
   - Other (please specify)

3. In the initial report of the first diagnosis of acute leukemia (ie, not added as an addendum after the initial report is signed out) please indicate the frequency that each sample/test is evaluated:

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>1-25% of the time</th>
<th>26-75% of the time</th>
<th>76-99% of the time</th>
<th>Always</th>
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</thead>
<tbody>
<tr>
<td>Peripheral blood smear</td>
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<td>Bone marrow aspirate smear</td>
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<td>Core touch imprints</td>
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<td>Core biopsy (trephine)</td>
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<td>Clot section</td>
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<td>Flow cytometry</td>
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<td>Fluorescence in situ</td>
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</tbody>
</table>
4. What tests do you typically perform on acute myeloid leukemia (AML) specimens in the majority of cases? (Select all that apply.)
   - Morphologic assessment
   - Conventional cytogenetics (karyotype)
   - FISH studies for unique translocations
   - Cytochemical studies (myeloperoxidase (MPO), Sudan black, non-specific esterase (NSE))
   - Flow cytometric analysis
   - Immunohistochemistry
   - Iron stain
   - Reticulin stain
   - Periodic acid-Schiff (PAS) stain
   - Molecular testing
   - Other (please specify)

5. What tests do you typically perform on acute lymphoblastic leukemia (ALL) specimens in the majority of cases? (Select all that apply.)
   - Morphologic assessment
   - Conventional cytogenetics (karyotype)
   - FISH studies for unique translocations
   - Cytochemical studies (MPO, Sudan black, NSE)
   - Flow cytometric analysis
   - Immunohistochemistry
   - Iron stain
   - Reticulin stain
   - PAS stain
   - Molecular testing
   - Other (please specify)

6. What do you include in your morphologic assessment of acute leukemia? (Select all that apply.)
   - Adequacy of aspirate/touch preparation
   - Blast percentage from aspirate/touch preparation
   - Presence of dysplasia, if any, in hematopoietic lineages
   - Specific/unique morphologic features of leukemia (Auer rods, abnormal eosinophils)
   - Bone marrow cellularity
   - Ring sideroblasts
- The presence of any additional findings of importance (necrosis, fibrosis, hemophagocytosis, co-existing tumor)

If “blast percentage from aspirate/touch preparation” selected:

7. What is the primary method used to determine the blast percentage in a bone marrow aspirate/touch preparation?
   - Manual count on aspirate smear/touch preparation
   - Estimated percentage on aspirate smear/touch preparation
   - Estimate percentage by immunohistochemistry on core biopsy or clot sections
   - Flow cytometry data
   - Not applicable (N/A) – do not include blast percentage in the morphologic assessment

If “Manual count on aspirate smear/touch preparation” selected:

8. How many cells are counted in the bone marrow aspirate?
   - 100
   - 200
   - 500
   - 1,000
   - Other (please specify)

If “Presence of dysplasia, if any, in hematopoietic lineages” selected:

9. How do you evaluate dysplasia in your morphologic assessment?
   - Percentage
   - Semi-quantitative with < or > values (eg, >50%)
   - Qualitative description
   - N/A – do not evaluate dysplasia in morphologic assessment

10. How are ancillary tests typically ordered in your bone marrow assessment for initial diagnosis of acute leukemia?
    - Our laboratory employs a standard testing algorithm
      - Always
      - Sometimes
      - Never
    - Testing is at the discretion of individual pathologists
      - Always
      - Sometimes
      - Never
    - Testing is at the discretion/request of individual clinicians
      - Always
      - Sometimes
      - Never
    - Testing is ordered after discussion with the clinician
11. For pediatric patients with ALL, other than a karyotype, which of the following are typically evaluated? (Select all that apply.)
   - t(12;21)(p13;q22); ETV6-RUNX1
   - t(9;22)(q34;q11.2); BCR-ABL1
   - Quantitative polymerase chain reaction (Q-PCR) for patients with confirmed BCR-ABL1 B-ALL
   - MLL translocations
   - iAMP 21
   - Trisomy 4 and 10 (FISH or comparative genomic hybridization (CGH) / single nucleotide polymorphism (SNP) microarray)
   - IKZF1 deletions
   - CRLF2 translocations
   - N/A - our institution does not evaluate pediatric bone marrows
   - Other (please specify)

12. For adult patients with ALL, other than a karyotype, which of the following are typically evaluated? (Select all that apply.)
   - t(12;21)(p13;q22); ETV6-RUNX1
   - t(9;22)(q34;q11.2); BCR-ABL1
   - Q-PCR for patients with confirmed BCR-ABL1 B-ALL
   - MLL translocations
   - iAMP 21
   - Trisomy 4 and 10 (FISH or CGH/SNP microarray)
   - IKZF1 deletions
   - CRLF2 translocations
   - N/A - our institution does not evaluate adult bone marrows
   - Other (please specify)

13. For patients with suspected AML, which tests are ordered? (Select all that apply.)
   - PML-RARA if acute promyelocytic leukemia suspected
     - Performed on all patients
     - Performed on selected patients
     - Not performed
   - KIT mutation
     - Performed on all patients
     - Performed on selected patients
     - Not performed
   - FLT3-ITD mutation
     - Performed on all patients
For patients with suspected acute myeloid leukemia:

14. Do you perform ancillary tests other than *PML-RARA*, *KIT* mutation, *FLT3-ITD*, *NPM1* mutation or *CEPBA* mutation for AML?
   - Yes
   - No

15. Other than *PML-RARA*, *KIT* mutation, *FLT3-ITD*, *NPM1* mutation or *CEPBA* mutation for AML, what is the name of the most frequently performed ancillary test?

16. What is the frequency this other ancillary test is performed for AML?
   - Always
   - Usually
   - Sometimes
   - Rarely

17. Which best describes how your institution reports cases:
   - A preliminary diagnosis of acute leukemia is issued; a final report is issued after all ancillary testing is completed.
   - An initial diagnosis of acute leukemia is issued; addendum reports are issued as test results are received.
   - An initial diagnosis of acute leukemia is issued; no additional report is issued because ancillary testing is reported separately.

18. Which results are included in the final bone marrow report after all addenda have been issued? (Select all that apply.)
   - CBC with differential
   - Peripheral blood smear morphology
   - Bone marrow morphologic assessment
   - Bone marrow aspirate/touch preparation differential
   - Flow cytometry results
   - Cytogenetics
   - FISH
   - Molecular genetic studies
   - Other (please specify)
19. Does your final report include a summary statement as to the prognostic and/or treatment implications of the ancillary testing?
   o Always
   o Sometimes
   o Never

Demographic Questions:
20. What is your specialty?
   o Pathology
   o Hematopathology
   o Hematology and/or oncology

If “Hematopathology” selected:
21. Are you board-certified in hematopathology?
   o Yes
   o No

22. Which of the following best describes your practice setting? (Select one.)
   o University hospital/academic medical center
   o Voluntary, non-profit hospital
   o For-profit hospital
   o City/County/State hospital
   o Veterans hospital
   o Army/Air Force/Navy hospital
   o National/corporate/reference laboratory
   o Regional/local independent laboratory (except clinic or group practice and not owned by a national corporation(s))
   o Public Health, non-hospital
   o Office laboratory
   o N/A – industry or vendor
   o Other (please specify)

23. Please provide any other additional information or comments on AL practices.