Clinicals

Age and sex: 56 year old male patient.
Previous History:
- no preleukemia
- no previous malignant disease (but coincident CLL at the same time of AML diagnosis. No prior therapy for CLL);
- no inborn condition of note.
Organomegaly:
- no hepatomegaly;
- no splenomegaly;
- no enlarged lymph nodes.

Blood

WBC: 52.2 x 10^9/l; Hb: 10.2 g/dl; platelets: 158.0 x 10^9/l; blasts: 86% (peripheral blood).
Bone marrow: Bone Marrow Differential:
- Cellularity : o.k.
- Megakaryocytes : present
- Blasts : 66% 'blast like' immature forms
- Promyelocytes : 1%
- Myeloid Activity : 13%
- Erythroid Activity : 6%
- Lymphocytes : 13%
- Other : -

Cytopathology classification

Cytology: M0.
Immunophenotype: A population of immature cells positive for CD45(dim), HLA-DR, CD7, CD34 (majority) and myeloid markers CD33 and CD13, with absence of staining for B cell, monocytic, and other T cell markers, consistent with myeloblast. A minor clonal kappa positive (moderate intensity) population of CD5 positive B cells which were negative for CD23 was also detected, suggesting a co-existing CD5 positive B cell lymphoproliferative disorder. A minor population of CD19 positive B cells co-expresses CD5 and exhibits monotypic surface immunoglobulin kappa light chain staining, consistent with involvement by the patient's known B cell lymphoproliferative disorder. Rearranged Ig or Tcr: n/a.
Pathology: Cellular aspirate with prominent population of 'blast-like' large cells with dispersed chromatin, distinct nucleoli and modest amounts of blue, agranular cytoplasm.
Electron microscopy: n/a.
Precise diagnosis: Acute myelogenous leukemia and chronic lymphocytic leukemia.

Survival

Date of diagnosis: 01-2002.
Treatment: Induction: ADE consisting of daunorubicin, cytarabine and etoposide plus PSC-833 (he was randomized to the treatment arm) on CALGB 19808. Consolidation with high-dose cytarabine and etoposide with stem cell harvest as per CALGB 19808. Auto stem cell transplant: on April 24, 2002. Conditioning regimen consisted of busulfan and etoposide as per CALGB 19808.
Complete remission: + on BM on Feb 8, 2002
Treatment related death: -;
Relapse: + June 17, 2003;
Phenotype at relapse: AML M0;
Status: Dead (06-2003);
Survival: 21 months.
Karyotype

Sample: Bone Marrow; Culture time: 24 h; Banding: GTG.

Results: 46,XY,t(4;12)(q11-12;p13)[18]/46,XY[2]
Karyotype at relapse: 46,XY,t(4;12)(q11-q2;p13),+16,-17[1]/46,XY[19]

Other molecular studies

Technics: FISH with LSI (TEL/AML1 ES Dual Color Translocation Probe (Vysis, Inc.)) on metaphases.
Results: ish der(4)(dimTEL+), der(12)(dimTEL+).

Comments

The findings are consistent with AML. Although histologic features of chronic lymphocytic leukemia (CLL) are not seen, flow cytometric analysis shows a small subset of monoclonal B cells, consistent with persistent involvement by the patient’s known CLL.