diagnosis of IPT can be established only by histopathologic examination of the splenic lesion, since neither clinical and imaging findings, nor cytologic findings are pathognomonic.

Clinically and radiologically, IPT may mimic a malignant process such as malignant splenic lymphoma. The origin of hematopoietic inflammatory myofibroblastic proliferation is unknown. Recently, a study by Arber *et al.*[8] suggested that EBV plays a role in at least a subset of IPT, since EBV RNA was detected in 41.2% of cases.

The prognosis of IPT is excellent, since there is no recurrence or subsequent development of malignant lymphoma. IPT of the spleen should be included in the differential diagnosis of prolonged fever with clinical, radiologic and cytologic findings suggesting splenic abscess or malignancy.

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Key words

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Concomitant chronic lymphocytic leukemia and acute myeloid leukemia diagnosed by two color flow cytometric analysis

Sir,

Chronic lymphocytic leukemia (CLL) is the most common form of leukemia in the Western hemisphere, accounting for about 25-30% of all leukemias. CLL increases in incidence exponentially with age; by age 80 the incidence rate is 20 cases per 100,000 persons per year. Acute myeloid leukemia (AML) is the second most common leukemia type in adults also with an increasing incidence with age.[3] An increased incidence of leukemia has been reported in patients receiving alkylating agents for hematologic and non-hematologic malignancies including CLL, but the concomitant presentation of AML and CLL is extremely rare, fifteen cases having been reported so far.[1,2,4-6] We have diagnosed a patient who presented simultaneously with these two distinct forms of leukemia by using flow cytometry.

A 82-year-old male was admitted to the hospital with weakness, dizziness and headache. The blood cell count was: WBC 37×10^9/L, hemoglobin 8 g/dL, hematocrit 24.8%, MCV 108 fL, platelets 26×10^9/L. Pallor and petechial skin lesions were the only findings on his physical examination, without hepatomegaly and splenomegaly. Two main distinct populations of leukocytes were seen in peripheral blood smear. While 65% of them were blast cells with round nuclei, one or two nucleoli, few azurophilic granules and narrow rim of cytoplasm, 35% of them were relatively mature appearing lymphocytes. Peroxidase activity was found to be positive by cytochemical peroxidase staining of the blast cells. We diagnosed the AML-M1 with light microscopy and cytochemical peroxidase staining. We performed two-color flow cytometric analysis that revealed two distinct cell populations with immunophenotyping patterns consistent with CLL ($CD5^+/CD19^+$) and AML ($CD33^+$) (Figure 1). The diagnosis of CLL was supported by the presence of lymphocytosis (12.9×10^9/L) and mature B-cell markers with CD5 and CD19 dual positivity (28%) in the population of peripheral blood mononuclear cells. AML was documented by the presence of circulating blast cells with cytochemical peroxidase positivity and 51% of the cells expressing CD33 as a myeloid marker in the peripheral blood. CD33 was the only antigen expressed in more than 50% of the cells. We performed CD33 and HLA-DR dual staining and HLA-DR expression was found to be positive in 28% of the cells without expression of CD33. This result confirmed that most of the cells detected with HLA-DR expression were B-CLL lymphocytes which had also expressed CD19, CD20 and CD22 antigens with similar percentages (28%, 30% and 26% respectively).

We could not explore B cell clonality for CLL diag-

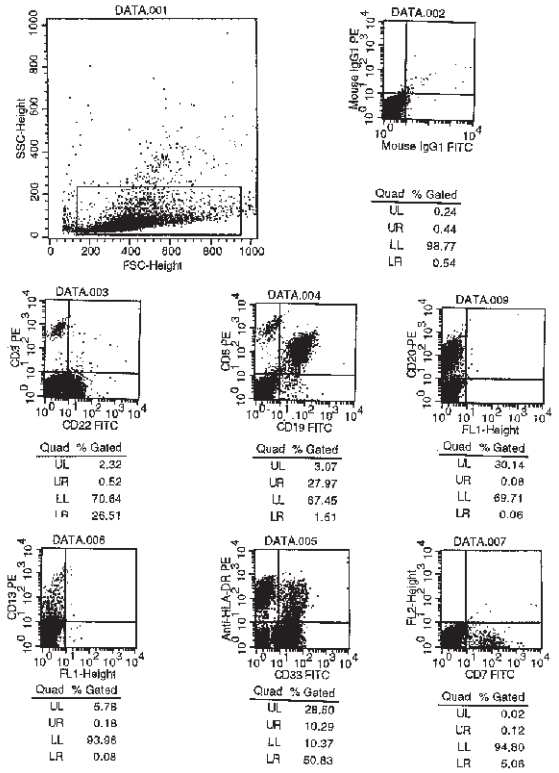

Figure 1. Light scatter properties of analyzed cells (top). The flow cytometric dot plots clearly show that virtually all CD19+ cells are positive for CD5 antigen and there are two cell populations with different HLA-DR antigen expression pattern. CD33 antigen is found to be the only antigen that expressed more than 50% of the cells and most of them are negative for HLA-DR antigen.

nosis but we do not have any doubts about the diagnosis because more then 10×10^9/L cells expressed CD5, CD19, CD20 and CD22 (Figure 1).

The concomitant presentation of AML and CLL is extremely rare and the use of two-color flow cytometry to differentiate the cell populations demonstrates the utility of this technology in the diagnosis of unusual hematologic malignancies.

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Key words

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Acute megaloblastic anemia: homocysteine levels are useful for diagnosis and follow-up

Sir,

Vitamin B_{12} (cobalamin) and folic acid deficiencies lead to megaloblastic anemia (MA), and induce accumulation of methylmalonic acid (MMA) and homocysteine (HCY).[1] The most common presentation of MA is classical macrocytic anemia. Other presentations are acute megaloblastosis (AM) and masked megaloblastosis.[2,3] In this report, we present a case of AM diagnosed and followed up by evaluation of HCY levels.

A 45-year old male was diagnosed as having Philadelphia-positive chronic myelogenous leukemia. Three years after diagnosis the patient developed a lymphoid blast crisis and was started on a chemotherapy protocol. The first consolidation treatment consisted of 6-mercaptopurine, methotrexate (MTX), VM-26 and cytarabine. MTX rescue with folinic acid was performed following standard guidelines. On day +14 a platelet count of 9×10^9/L was found. Hb was 99 g/L, mean corpuscular volume (MCV) 92 fL and leukocyte count was 7.06×10^9/L with 84% of neutrophils with hypersegmentation. Reticulocyte count was 0.053×10^{12}/L (1.66%). Vitamin B_{12} levels and red cell folate were 322 pmol /L (normal 150-1200) and 938 nmol/L (normal 441-1285), respectively. A BM aspirate revealed 30% of erythroid precursors with megaloblastic features and a 55% of myeloid precursors with increased size and no blast cells. Serum HCY levels were 38 µmol/L (normal < 16). The