CASE 18 ACUTE NONLYMPHOCYTIC LEUKEMIA

Case #18 is a 70-year-old female presenting with a relatively brief illness: three months of fatigue and recurrent infections, six weeks of dyspnea on exertion and two weeks of fever. On physical examination she had evidence of hemorrhagic disorder with cellulitus of her right leg and oral candidiasis.

She has an elevated white count of 47,400. Note that the lymphocyte peak on her WBC histogram appears to be shifted to the right; there is an R2 flag for the lymphocyte population. An elevated lymphocyte percent of 64% was obtained with an absolute lymphocyte number of 30,000. The R2 flag alerts us that these may or may not be lymphocytes and we should examine a blood smear.

Manual differential in this case showed the presence of 82.5% blasts. They were characterized cytochemically as myeloblasts and morphologically as M1 blasts in the FAB classification of acute nonlymphocytic leukemia. Review of her peripheral blood smear shows the cells producing the abnormal population in the white cell curve to be typical myeloblasts.

The thrombocytopenia in this case is typical for a patient with acute leukemia. A platelet result of 9,000 was obtained.

LABORATORY

Manual Differential:

Neutrophils	11.5	Myelocytes	2.0
Monocytes	3.0	Blasts	82.5

Peripheral Smear: Anisocytosis — mild

Cytochemistry:

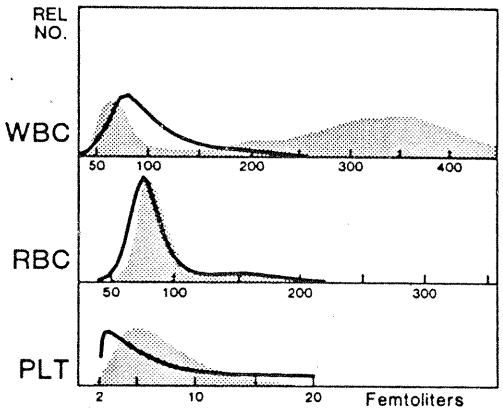
Peroxidase — pos	Nonspecific esterase — neg
Auer rods (Phi bodies) — absent	Acid phosphatase — diffuse
Chloroacetate esterase — pos	

SAMPLE-ANALYSIS INTERPRETATION

WBC: Curve broadened and shifted to the right secondary to the circulating blasts. The percentages do not match manual differentials.

PLT: No-fit curve secondary to the thrombocytopenia. The decreased MPV is characteristic of acute leukemia.

IMPRESSION: Acute nonlymphocytic leukemia, M1 by FAB classification



WBC	47.4	
LY %	64.0	H R2
MO%	22.3	H
GR%	13.9	L
LY #	30.3	R2
MO #	10.6	H
GR #	6.6	
RBC	3.35	
HGB	9.9	
HCT	28.9	
MCV	86.0	
MCH	29.6	
MCHC	34.4	
RDW	14.5	
PLT	9.0	L
PCT	.005	
MPV	6.0	
PDW	17.4	