Immature Granulocyte

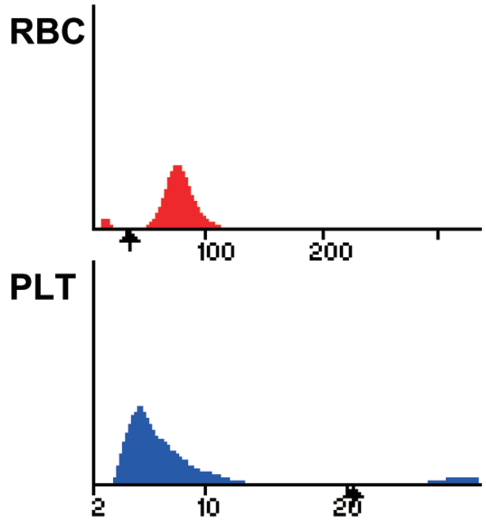
Information from Celltac

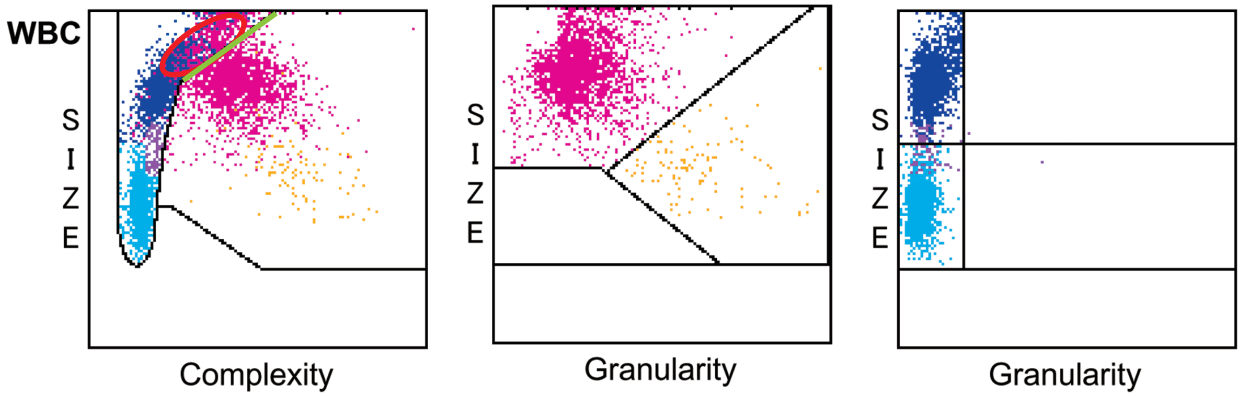
WBC	6.8	[10^3 /μL]
NE	3.0 *	44.3 * [%]
LY	1.6 *	22.9 * [%]
MO	2.0 *	29.1 * [%]
EO	0.1 *	1.9 * [%]
BA	0.1 *	1.8 * [%]
RBC	2.82 L	[10^6 /μL]
HGB	8.3 L	[g/dL]
HCT	26.1 L	[%]
MCV	92.6	[fL]
MCH	29.4	[pg]
MCHC	31.8	[g/dL]
RDW	16.1	[%]
PLT	195	[10^3 /μL]
PCT	0.07 L	[%]
MPV	3.8 L	[fL]
PDW	16.9	[%]

[WBC FLAG]
- Blasts
- Immature Granulocyte
- Left Shift
- Monocytosis

[RBC FLAG]
- Anemia

[PLT FLAG]

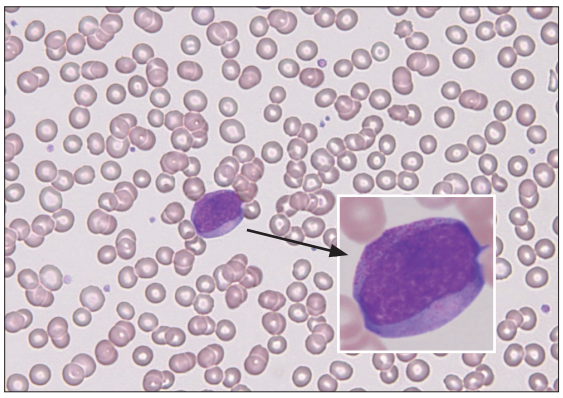




Data interpretation

Immature neutrohils and immature granulocytes confirmed with microscopic blood film examination seemed to appear around the Left Shift area (○) and reach the Immature Granulocyte area (○). This patient was confirmed as exhibiting left shift by the band cell percentage (13.5%).

Morphology



Doctor's comment

The leukocytes counted on the blood film fell within the normal range, but many neutrophils showed a left shift and there were occasional promyelocytes, myelocytes, and metamyelocytes. A small number of blasts were observed. Some mature neutrophils exhibited toxic granulation or Döhle bodies. A relatively high percentage of monocytes was seen and occasional NRBCs. In this case, it is not possible to differentiate between a hematological disorder and a leukemoid reaction. Further tests (bone marrow biopsy and cell markers) and clinical examination is indicated.

Manual differential

Blast	1.0%
Promyelocyte	1.0%
Myelocyte	2.5%
Metamyelocyte	3.0%
Band	13.5%
Seg	30.0%
Lymphocyte	24.0%
Atypical Ly	0.5%
Monocyte	23.0%
Eosinophil	1.0%
Basophil	0.5%
Other	
Total	200
NRBC/100WBC	2
RBC/ other findings	ANISO (+), POLY (+), TOXIC (+), DOHLE (+)

NIHON KOHDEN

Myeloblast

Information from Celltac

WBC	11.1 H	[10^3 /μL]	
NE	0.5 *	4.7 *	[%]
LY	8.6 *	77.3 *	[%]
MO	1.6 *	14.6 *	[%]
EO	0.0 *	0.1 *	[%]
BA	0.4 *	3.3 *	[%]
RBC	2.81 L	[10^6 /μL]	
HGB	8.3 L	[g/dL]	
HCT	25.7 L	[%]	
MCV	91.5	[fL]	
MCH	29.5	[pg]	
MCHC	32.3	[g/dL]	
RDW	14.7	[%]	
PLT	39 L	[10^3 /μL]	
PCT	0.03 L	[%]	
MPV	7.1	[fL]	
PDW	19.2 H	[%]	

[WBC FLAG]

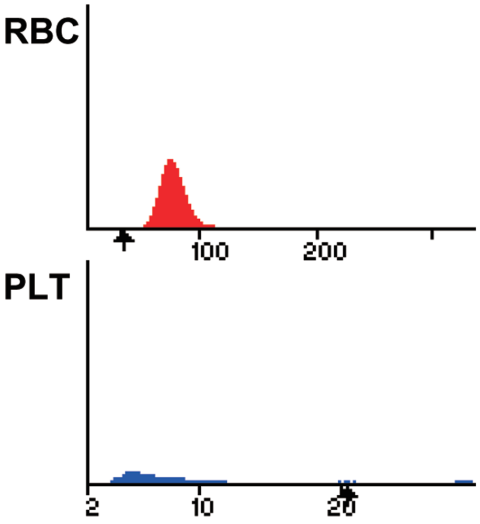
- Blasts
- Immature Granulocyte
- Left Shift
- Ly-Mo Interference
- Neutropenia
- Lymphocytosis
- Monocytosis
- Basophilia

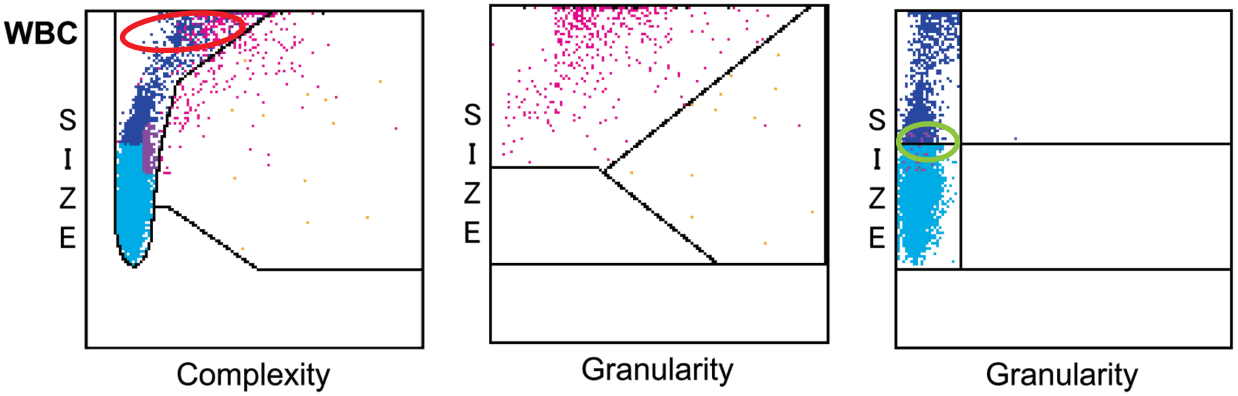
[RBC FLAG]

- Anemia

[PLT FLAG]

- Thrombocytopenia

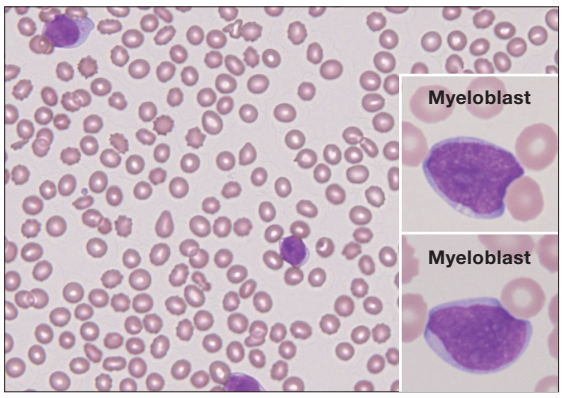




Data interpretation

A large population was confirmed in the higher FSS and lower SDS intensity area on the S-C (MAIN) scattergram including the Blasts flag detection area (○) and it triggered the flag. In this case, blast cells appear around the mononuclear cell area on the S-G (LY/MO/BA) scattergram (○), and make the subpopulations in the area unclear leading to the Ly-Mo Interference. Manual counting confirmed that most of the leukocytes were in fact myeloblasts (Blast: 88.0%).

Morphology



Doctor's comment

A large number of blast cells were confirmed by microscopic film examination. These medium-sized blasts show a range of nuclear: cytoplasmic ratios, fine nuclear chromatin, and clear nucleoli. Some of them have basophilic cytoplasm and irregular nuclear membranes: some cells have a few granules. Mature neutrophils are reduced and a small number of immature granulocytes are observed. Acute myelocytic leukemia (AML) is suspected, and therefore bone marrow examination and further tests are required.

Manual differential

Blast	88.0%
Promyelocyte	1.0%
Myelocyte	
Metamyelocyte	
Band	
Seg	1.5%
Lymphocyte	8.5%
Atypical Ly	0.5%
Monocyte	0.5%
Eosinophil	
Basophil	
Other	
Total	200
NRBC/100WBC	1
RBC/ other findings	ANISO (+) POIKIL