"Kiev Oblast Cancer Dispensary"

EXTRACT
From medical history number 11321/437

Patient **Popova Katerina Andreevna**, 24.09.15g.r. residing at the address:
Poltava, str. Bashkirtseva M., 37, kv.41, she is being treated at the pediatric hematology fault CDF "KOOD" from 28.12.16 till now in connection with the diagnosis:
Megacaryoblastic Acute leukemia, M7 / FAB, (S94.2 ICD-10).
TSNS- negative.

An. morbi: For the first time the mother saw the appearance of hemorrhages (геморрагий) on the lower limbs of November 2016, the doctor did not address, 25.12.16 febrile episode about which the girl was examined by a pediatrician and performed blood tests which revealed anemia and thrombocytopenia:

Hemogram on 26/12/16 (Poltava DGKB):

WBC •10^9/л	RBC •10^{12}/л	HgB г/л	PLT •10^9/л	**Блас %**	Ат. Мн %	Эоз. %	П/яд. %	С/яд. %	Лим ф. %	Мон. %	СОЭ мм/час
9,5	2,32	75	27	**43**	3	1	10	12	27	4	23

In terms of pediatric hematology DGKB of Poltava performed vicarious blood transfusions and platelet. Made puncture - the material submitted to the laboratory of the Centre Refferens OBCs and TCM at NDSB "OKHMATDET".

28.12.16 patient is transferred to the Pediatric Hematology KZKOR "KOOD"
The diagnosis is established in KOOD 26/12/16 based on the results of cytological and immunohistochemical study of cells of peripheral blood and bone marrow № 2016-2088 and 2016-2087 (in reference NDSB "OKHMATDET").

Myelogram on 26.12.16 (№ 2016-4827):

Erythropoiesis (EP)	**%**	**Granulopoiesis**	**%**
erythroblasts	2,2	promyelocytes	0,4
normoblastsbasophil	4,8	myelocytes	2,6
polychromatic	8,2	metamyelocytes	3,2
oxyphilous	8,8	bandneutrophils	3,6
amount EP	24,0	segmentedneutrophils	2,6
monocytes	2,6	eosinophilicgranulocytes	0,2
lymphocytes	22,4	basophilgranulocyte	
plasmacells		amountgranulopoiesis	12,6
		blasts	38,4

Cytochemical study:

Myeloperoxidase (POS)	**negative**
Schick reaction (PAS)	**is positive in terms of finely granular**
Non-specific esterase (ANAE)	**weakly positive in terms of**

cellularity	moderately hypocellularity
dyserythropoiesis	+ size enlargement, haemoglobinisation defect in mature
dysmyelopoiesis	-
dysthrombopoiesis	-
megakaryocytes	1/ drug
Auer rods	-

Blast heteromorphic cells of the bears morphological features megakaryoblasts.

Immunophenotype.

CD45low+(100%)	CD13-	CD2-	CD10-	CD11c-
CD38-	CD15-	CD3- cCD3-	CD19-	CD14-
HLA-Dr-	CD33-	**CD4+(75%)**	CD20-	**CD41+(62%)**
Anti-TdT-	CD64-	CD5-	CD22-	**CD42+(75%)**
Anti-MPO-	CD65-	**CD7+(35%)**	cCD79a-	CD56-
CD34-	**CD117+(90)%**	CD8-	**CD58+ (83%)**	**CD59+(100%)**
				CD61-

Conclusion: Acute myeloid leukemia with preferential differentiation of leukemic blasts substrate. Precise diagnosis is possible after the molecular cytogenetic and molecular genetic studies.

Molecular genetic (PCR), a bone marrow examination from 12.26.2016:

Translocation RBM15/MKL1t(1;22)(p13;q13)	not identified
Translocation AF9/MLL t(9;11)(p23;q23)	***identified***
Translocation MLL/MLL 11q23 internal tandem duplication	not identified
Translocation AF4/MLL t(4; 11)(q21;q23)	not identified
Mutation of a gene АДЕ3	not identified
Translocation MDS/EVI1 (t(3;3)(q21;q26); inv(3)(q21q26); ins(3) (q26;q21q26); t(3;12)(q26;p13); t(3;21)(q26;q22))	not identified

Molecular cytogenetic (FISH) bone marrow examination from 26.12.2016:

rearrangeable MLL-gene	***identified in 49% of the cells***
Monosomy 7, dividing 7q-	not identified
Monosomy 5, deletion 5q-	not identified
Translocation AML/ETO t(8;21)(q22;q22)	not identified
Translocation BCR/ABL t(9;22)(q34;q11)	Не выявлена
Changing the number of sex chromosomes	not identified
Translocation PML/RARa t(15;17)(q22;q21)	not identified
Translocation CBFB/MYH11 inv(16)(p13;q22)/t(16;16)	not identified
deletion 13q14	not identified
Trisomy 8	not identified

Revealed triple signals 21q22 and 22q11 in 67% of the cells, which may indirectly indicate the presence of trisomy 21 and trisomy 22 and in conjunction with the rearrangeable MLL-gene be a complex karyotype.

A (II) Rh (+) positive
28/12/16 under intravenous anesthesia, central venous catheter in the right subclavian vein. (BBraun certofix duo 4 Fr)

From 29/12/16 started treatment according to the protocol AML-BFM-2004 (approved as a treatment standard in AML by order of the Ministry of Health №364)

From 29.12.16 on 06.01.17 held Induction AIE. (Cytosar, idarubicin, etoposide)

01/13/17 (Day 15 AIE) in myelogram № 2017-167 100% lymphocytes in the background aplasia. The drugs provide little information because of the blood dilution.

01/23/17 (Day 24 AIE) in myelogram № 2017-312 - blasts were not found. Aplasia bone marrow hematopoiesis.

In after booksize period against the background of pancytopenia - an episode of febrile neutropenia docked on a combination of Cefotaxime Metronidazole + + Amikacin. (From 01.11.16 on 24.01.16)

On 24/01/16 due to an infection of the skin of the perineum gets Vancomycin
On 01/26/17 due to recurrent episode of febrile neutropenia added meropenem.

With the aim of substitution performed three blood transfusions and platelet transfusions seven.

Currently, the patient of average weight, due to the severity of the underlying disease, cytopenia, with positive dynamics on hemogram indexes (table of hemogram in dynamics for the period from 28.12.16 on 26.01.17 supplied). Hemodynamics stable.

30.01.17 (Day 32 AIE) in myelogram № 2017-312 - blasts of 3%. Bone marrow remission. Immunocyto- study found 0.2% nucleating cells bearing leukemia-associated immunophenotype. Molecular cytogenetic (FISH) study revealed rearrangement of MLL-gene in 1% of nucleated cells.

On 01.02.17 at 05.02.17 conducted re-induction US (Cytosar + mitoxantrone)

Molecular genetic typing of HLA- (the SSP-method) of the patient and the parents of 06/02/16: According to the results of typing of HLA- fully compatible (identical) related donor can not be found. Patient Popova Katerina partially incompatible (haploidentical) with the proposed donor.

To address the issue of further therapy: type, location and time of bone marrow transplantation is sent for consultation to the Head Specialist of Ministry of Health PhD Donskoy S.B.

The child needed a bone marrow transplant after remission

07.02.2017

Head. Dep. Derbeneva NA ..