

**EQA round: DIF1/23 - Peripheral Blood Morphology Evaluation**

Deadline: 17.3.2023

Setup: Slovakia

AV = assigned value  
 CVE = consensus of the experts  
 >>> ... expected result  
 > ... acceptable result  
 ± ... result not assessed

$N_{tot}$  = total number of the results  
 $N_{rel}$  = relative number of the results

$N_{eva}$  = number of the results assessed  
 $N_{suc}$  = number of successful results  
 $S_{rel}$  = relative success

Sample Test Group	AV	$N_{tot}$	$N_{rel}$ [%]	Frequency of the results Result	Success $N_{eva}$ $N_{suc}$ $S_{rel}$ [%]
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**Sample A**

## (921) WBC - morphology

All results	4	20	Agranulation
	2	10	Neutrophil hypersegmentation
CVE >>>	20	100	Denuded nuclei/cells, nuclear shadows / smudge cells
	2	10	Vacuolisation
	2	10	LGL/big lymphocytes
CVE >>>	4	20	Lymphocytes - reactive forms
	15	75	Lymphocytes - atypical forms (except "hairy")

## (922) WBC - count changes (relative)

All results	CVE >>>	18	90	Neutropenia
	CVE >>>	20	100	Lymphocytosis
	CVE >>>	11	55	Monocytopenia
		3	15	Left shift

## (923) RBC - morphology

All results	CVE >>>	5	25	No changes
	CVE >>>	9	45	Normocytosis
		1	5	Anisocytosis
	CVE >>>	2	10	Poikilocytosis
		6	30	Elliptocytes, ovalocytes
		5	25	Spherocytes
		1	5	Stomatocytes
		1	5	Dacrocytes
		1	5	Acanthocytes
		3	15	Echinocytes
		1	5	Target cells
		1	5	Schistocytes (and other fragmentocytes)
		1	5	Polychromasia
	CVE >>>	7	35	Hypochromia
		1	5	Rouleaux formation

## (924) Platelets - morphology

All results	CVE >>>	15	75	No changes
		4	20	Large platelets
		4	20	Small platelets

## (925) Clinical recommendation - smear assessment

All results	CVE >>>	20	100	Blood smear is pathological
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## (926) Clinical recommendation - examination

All results	CVE >>>	20	100	An examination by the specialist/haematologist is recommended
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## (927) Estimation of diagnosis

All results		2	10	Anemia: Normocytosis
		1	5	Anemia: Hypochromia
		1	5	Acute leukemia: Without closer determination
		1	5	Chronic myeloproliferative disease: Exact determination impossible
		2	10	Mature lymphocytic cells neoplasms: Exact determination impossible
CVE >>>		14	70	Mature lymphocytic cells neoplasms: CLL (chronic lymphocytic leukaemia)
		4	20	Mature lymphocytic cells neoplasms: PLL (prolymphocytic leukaemia)
		2	10	Platelets disorders: Thrombocytopenia
		1	5	Other: Other disease

## (928) How do you rate the technical quality of the smear?

All results		20	0
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## (929) How do you rate the staining of the smear?

All results		20	0
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Sample Test Group	AV	N <sub>tot</sub>	N <sub>rel</sub> [%]	Frequency of the results		N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub> [%]
				Result				
(939) Overall assessment		20				20	19	95
Maximum score achievable:	105 points			Criterion (60 % out of the maximum):	63 points			
Minimum score achieved:	56 points (53,3 %)							
Maximum score achieved:	91 points (86,7 %)							
All results		1	5	Unacceptable result				
	>>>	19	95	Correct result				

**Sample B**

## (921) WBC - morphology

All results		1	5	No changes
		6	30	Agranulation
		1	5	Neutrophil hypersegmentation
		1	5	Hyposegmentation / asegmentation / pelgeroid
		1	5	Auer rods
	>	2	10	Atypical/reactive/pathological monocytes/promono.
CVE	>>>	15	75	Denuded nuclei/cells, nuclear shadows / smudge cells
		2	10	Cytoplasmatic fragments
CVE	>>>	7	35	Vacuolisation
		2	10	LGL/big lymphocytes
		3	15	Lymphocytes - atypical forms (except "hairy")
		1	5	Nucleus fragments of neutrophiles
		4	20	Abnormal/leukemic promyelocytes

## (922) WBC - count changes (relative)

All results	CVE >>>	16	80	Neutropenia
		3	15	Lymphocytosis
		4	20	Lymphocytopenia
		1	5	Monocytosis
	>	12	60	Monocytopenia
CVE	>>>	15	75	Left shift

## (923) RBC - morphology

All results		1	5	Normocytosis
	CVE >>>	9	45	Microcytosis
	CVE >>>	16	80	Anisocytosis
		1	5	Poikilocytosis
	>	10	50	Eliptocytes, ovalocytes
		5	25	Spherocytes
		3	15	Stomatocytes
		1	5	Dacryocytes
		3	15	Acanthocytes
	CVE >>>	6	30	Polychromasia
		1	5	Hypochromia
		2	10	Howell-Jolly bodies
		1	5	Rouleaux formation
		1	5	RBC agglutination

## (924) Platelets - morphology

All results		>	12	No changes
		>	5	Large platelets
			4	Small platelets
			1	Platelet aggregates
		>	1	Platelets hypogranulation

## (925) Clinical recommendation - smear assessment

All results	CVE >>>	20	100	Blood smear is pathological
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## (926) Clinical recommendation - examination

All results	CVE >>>	20	100	An examination by the specialist/haematologist is recommended
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## (927) Estimation of diagnosis

All results		1	5	Anemia: Normocytosis
		1	5	Anemia: Hypochromia
		>	13	Acute leukemia: Without closer determination
	CVE >>>	10	50	Acute leukemia: AML (acute myeloid leukemia)
		1	5	Myelodysplastic syndrome: Myelodysplastic syndrome
		1	5	Chronic myeloproliferative disease: Exact determination impossible
		2	10	Platelets disorders: Thrombocytopenia
		1	5	Other: Viral infection incl. inf. mononucleosis
		1	5	Other: Other reactive changes

**Summary statistics - qualitative results****EQA round: DIF1/23 - Peripheral Blood Morphology Evaluation**

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Sample Test Group	AV	N <sub>tot</sub>	N <sub>rel</sub> [%]	Frequency of the results		Success N <sub>eva</sub> N <sub>suc</sub> S <sub>rel</sub> [%]
				Result		
(928) How do you rate the technical quality of the smear?		20				0
All results	±	20	100	Acceptable		
(929) How do you rate the staining of the smear?		20				0
All results	±	20	100	Acceptable		
(939) Overall assessment		20				20 15 75
Maximum score achievable:	93 points			Criterion (60 % out of the maximum):	56 points	
Minimum score achieved:	31 points (33,3 %)					
Maximum score achieved:	81 points (87,1 %)					
All results		5	25	Unacceptable result		
	>>>	15	75	Correct result		

**Summary for all samples**

(939) Overall assessment	20	20 15 75
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