

## EQA round: DIF2/24 - Peripheral Blood Morphology Evaluation

Deadline: 24.5.2024

Setup: all data

AV = assigned value

CVE = consensus of the experts

&gt;&gt;&gt; ... expected result

&gt; ... acceptable result

± ... result not assessed

N<sub>tot</sub> = total number of the resultsN<sub>rel</sub> = relative number of the resultsN<sub>eva</sub> = number of the results assessedN<sub>suc</sub> = number of successful resultsS<sub>rel</sub> = relative success

Sample Test Group	Frequency of the results				Success		
	AV	N <sub>tot</sub>	N <sub>rel</sub> [%]	Result	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub> [%]

## Sample A

## (921) WBC - morphology

All results		3	2	No changes			
	>	20	13	Agranulation			
		9	6	Hyposegmentation / asegmentation / pelgeroid			
		1	0,7	Döhle bodies			
CVE >>>		147	98	Denuded nuclei/cells, nuclear shadows / smudge cells			
		2	1,3	Cytoplasmatic fragments			
	>	66	44	Vacuolisation			
		2	1,3	LGL/big lymphocytes			
		4	2,7	Lymphocytes - reactive forms			
	>	70	47	Lymphocytes - atypical forms (except "hairy")			
		2	1,3	Granules (pseudo) Chediak-Higashi			

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

All results	CVE >>>	147	98	Neutropenia			
		1	0,7	Neutrophilia			
	>	44	29	Lymphocytosis			
	CVE >>>	95	63	Lymphocytopenia			
		4	2,7	Eosinophilia			
	CVE >>>	114	76	Monocytopenia			
		16	11	Left shift			

## (923) RBC - morphology

All results		2	1,3	No changes			
		9	6	Normocytosis			
	CVE >>>	143	95	Anisocytosis			
		4	2,7	Poikilocytosis			
		2	1,3	Eliptocytes, ovalocytes			
	>	25	17	Spherocytes			
		8	5,3	Stomatocytes			
	>	27	18	Dacryocytes			
		2	1,3	Target cells			
		2	1,3	Schistocytes (and other fragmentocytes)			
		2	1,3	Polychromasia			
		2	1,3	Hypochromia			
		1	0,7	Basophilic stippling			
		4	2,7	Howell-Jolly bodies			
		1	0,7	Rouleaux formation			

## (924) Platelets - morphology

All results		2	1,3	Not specified			
	CVE >>>	111	74	No changes			
		6	4	Large platelets			
		7	4,7	Small platelets			
	>	31	21	Platelets hypogranulation			

## (925) Clinical recommendation - smear assessment

All results	CVE >>>	150	100	Blood smear is pathological			
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## (926) Clinical recommendation - examination

All results	CVE >>>	150	100	An examination by the specialist/haematologist is recommended			
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## (927) Estimation of diagnosis

All results		1	0,7	Not specified			
		6	4,1	Anemia: Normocytosis			
	CVE >>>	61	41	Acute leukemia: Without closer determination			
	>	56	38	Acute leukemia: ALL (acute lymphoblastic leukemia)			
	>	10	6,8	Acute leukemia: AML (acute myeloid leukemia)			
		1	0,7	Myelodysplastic syndrome: Myelodysplastic syndrome			
		1	0,7	Chronic myeloproliferative disease: CML (chronic myelogenous leukaemia)			
		24	16	Mature lymphocytic cells neoplasms: Exact determination impossible			
		10	6,8	Mature lymphocytic cells neoplasms: CLL (chronic lymphocytic leukaemia)			

Setup: all data

Sample Test Group	Frequency of the results				Success		
	AV	N <sub>tot</sub>	N <sub>rel</sub> [%]	Result	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub> [%]
		2	1,4	Mature lymphocytic cells neoplasms: PLL (prolymphocytic leukaemia)			
		13	8,8	Platelets disorders: Thrombocytopenia			
(928) How do you rate the technical quality of the smear?		150				0	
All results	±	150	100	Acceptable			
(929) How do you rate the staining of the smear?		148				0	
All results	±	148	100	Acceptable			
(939) Overall assessment (score)		150				150	149 99
Maximum score achievable: 87 points				Criterion (60 % out of the maximum): 53 points			
Minimum score achieved: 52 points (59,8 %)							
Maximum score achieved: 87 points (100 %)							
All results		1	0,7	Unacceptable result			
	>>>	149	99	Satisfactory result			

## Sample B

### (921) WBC - morphology

All results		3	2	Not specified			
	>	67	45	No changes			
	>	24	16	Hypergranulation/toxic granulation			
		5	3,3	Giant bands and metamyelocytes			
	>	15	10	Agranulation			
		11	7,3	Neutrophil hypersegmentation			
		4	2,7	Hyposegmentation / asegmentation / pelgeroid			
		1	0,7	Döhle bodies			
		1	0,7	Atypical/reactive/pathological monocytes/promono.			
		11	7,3	Denuded nuclei/cells, nuclear shadows / smudge cells			
	>	31	21	Vacuolisation			
		5	3,3	LGL/big lymphocytes			
		4	2,7	Lymphocytes - reactive forms			
		4	2,7	Lymphocytes - atypical forms (except "hairy")			
		1	0,7	Nucleus fragments of neutrophiles			

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

All results	CVE >>>	127	85	Neutrophilia			
	CVE >>>	144	96	Lymphocytopenia			
		1	0,7	Eosinophilia			
	CVE >>>	90	60	Basophilia			
		4	2,7	Monocytopenia			
	CVE >>>	145	97	Left shift			

### (923) RBC - morphology

All results		5	3,3	Normocytosis			
		1	0,7	Macrocytosis			
	CVE >>>	147	98	Anisocytosis			
	>	46	31	Poikilocytosis			
	CVE >>>	141	94	Eliptocytes, ovalocytes			
	>	34	23	Spherocytes			
	>	41	27	Stomatocytes			
		1	0,7	Drepanocytes			
	CVE >>>	143	95	Dacryocytes			
		1	0,7	Acanthocytes			
		2	1,3	Echinocytes			
		4	2,7	Target cells			
	CVE >>>	52	35	Schistocytes (and other fragmentocytes)			
	CVE >>>	134	89	Polychromasia			
	CVE >>>	117	78	Basophilic stippling			
		5	3,3	Howell-Jolly bodies			
		1	0,7	Cabot rings			
		2	1,3	Rouleaux formation			
		1	0,7	Pappenheimer bodies			

### (924) Platelets - morphology

All results		1	0,7	Not specified			
		7	4,7	No changes			
	CVE >>>	138	92	Large platelets			
		9	6	Small platelets			
		8	5,3	Platelet aggregates			
	>	55	37	Platelets hypogranulation			

Setup: all data

Sample Test Group	Frequency of the results				Success		
	AV	N <sub>tot</sub>	N <sub>rel</sub> [%]	Result	N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub> [%]
	>	9	6	Megakaryocytic nucleus fragments			
<b>(925) Clinical recommendation - smear assessment</b>							
All results	CVE >>>	150	100	Blood smear is pathological			
<b>(926) Clinical recommendation - examination</b>							
All results	CVE >>>	150	100	An examination by the specialist/haematologist is recommended			
<b>(927) Estimation of diagnosis</b>							
All results		1	0,7	Anemia: Without closer determination			
		10	6,8	Anemia: Normocytosis			
		1	0,7	Acute leukemia: AML (acute myeloid leukemia)			
		4	2,7	Myelodysplastic syndrome: Myelodysplastic syndrome			
	>	45	30	Chronic myeloproliferative disease: Exact determination impossible			
		3	2	Chronic myeloproliferative disease: CML (chronic myelogenous leukaemia)			
	CVE >>>	111	75	Chronic myeloproliferative disease: Myelofibrosis			
		1	0,7	Platelets disorders: Thrombocytopenia			
		1	0,7	Platelets disorders: Other			
		1	0,7	Other: Viral infection incl. inf. mononucleosis			
<b>(928) How do you rate the technical quality of the smear?</b>							
All results		± 149	99	Acceptable			0
		± 1	0,7	Not acceptable (give a reason)			
<b>(929) How do you rate the staining of the smear?</b>							
All results		± 148	100	Acceptable			0
<b>(939) Overall assessment (score)</b>							
		150			150	146	97
Maximum score achievable: 117 points      Criterion (60 % out of the maximum): 71 points							
Minimum score achieved: 47 points (40,2 %)							
Maximum score achieved: 117 points (100 %)							
All results		4	2,7	Unacceptable result			
	>>>	146	97	Satisfactory result			

**Summary for all samples**

<b>(939) Overall assessment (score)</b>	150	150	145	97
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