

EQA round: DIF1/25 - Peripheral Blood Morphology Evaluation

Deadline: 14.3.2025

Setup: all data

AV = assigned value

CVE = consensus of the experts

>>> ... expected result

> ... acceptable result

± ... result not assessed

N_{tot} = total number of the resultsN_{rel} = relative number of the resultsN_{eva} = number of the results assessedN_{suc} = number of successful resultsS_{rel} = relative success

Sample Test Group	Frequency of the results			Success		
	AV	N _{tot}	N _{rel} Result [%]	N _{eva}	N _{suc}	S _{rel} [%]

Sample A

(921) WBC - morphology

All results	>	32	22	No changes
		2	1,4	Hypergranulation/toxic granulation
		7	4,8	Agranulation
		6	4,1	Neutrophil hypersegmentation
		1	0,7	Hyposegmentation / asegmentation / pelgeroid
		1	0,7	Döhle bodies
		1	0,7	Atypical/reactive/pathological monocytes/promono.
	>	64	44	Denuded nuclei/cells, nuclear shadows / smudge cells
		2	1,4	Cytoplasmatic fragments
	>	56	39	Vacuolisation
		12	8,3	LGL/big lymphocytes
	>	41	28	Lymphocytes - reactive forms
		13	9	Lymphocytes - atypical forms (except "hairy")
		1	0,7	Nucleus fragments of neutrophiles

(922) WBC - count changes (relative)

All results	CVE >>>	132	91	Normal count
		7	4,8	Basophilia
		1	0,7	Monocytosis
	>	7	4,8	Left shift

(923) RBC - morphology

All results	CVE >>>	143	99	Anisocytosis
	>	57	39	Poikilocytosis
		16	11	Eliptocytes, ovalocytes
	>	70	48	Spherocytes
		31	21	Stomatocytes
		2	1,4	Drepanocytes
		24	17	Dacryocytes
	CVE >>>	108	74	Acanthocytes
	CVE >>>	100	69	Echinocytes
	CVE >>>	139	96	Target cells
	CVE >>>	112	77	Schistocytes (and other fragmentocytes)
	CVE >>>	64	44	Polychromasia
	CVE >>>	50	34	Hypochromia
	CVE >>>	130	90	Basophilic stippling
	CVE >>>	132	91	Howell-Jolly bodies
	CVE >>>	71	49	Pappenheimer bodies

(924) Platelets - morphology

All results		1	0,7	Not specified
		23	16	No changes
	CVE >>>	116	80	Large platelets
		7	4,8	Small platelets
		2	1,4	Platelet aggregates
	>	23	16	Platelets hypogranulation
		2	1,4	Megakaryocytic nucleus fragments

(925) Clinical recommendation - smear assessment

All results		1	0,7	Not specified
	CVE >>>	142	98	Blood smear is pathological
		2	1,4	Blood smear within physiological limits or with reactive changes

(926) Clinical recommendation - examination

All results	CVE >>>	142	98	An examination by the specialist/haematologist is recommended
		3	2,1	An examination by the specialist/haematologist is not necessary

(927) Estimation of diagnosis

All results		1	0,7	Not specified
		4	2,8	Anemia: Without closer determination
		1	0,7	Anemia: Normocytosis
		2	1,4	Anemia: Hypochromia
	CVE >>>	132	92	Anemia: Haemolytic
	>	21	15	Anaemia: Thalassemia and other congenital anaemias

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Sample Test Group	Frequency of the results			Success			
	AV	N _{tot}	N _{rel} [%]	Result	N _{eva}	N _{suc}	S _{rel} [%]
		1	0,7	Myelodysplastic syndrome: Myelodysplastic syndrome			
		1	0,7	Chronic myeloproliferative disease: Exact determination impossible			
		22	15	Platelets disorders: Thrombocytosis			
		3	2,1	Other: Other reactive changes			
		2	1,4	Other: Other disease			
(928) How do you rate the technical quality of the smear?		144				0	
All results	±	143	99	Acceptable			
	±	1	0,7	Not acceptable (give a reason)			
(929) How do you rate the staining of the smear?		143				0	
All results	±	142	99	Acceptable			
	±	1	0,7	Not acceptable (give a reason)			
(939) Overall assessment (score)		145			145	142	98
Maximum score achievable: 123 points				Criterion (60 % out of the maximum): 74 points			
Minimum score achieved: 60 points (48,8 %)							
Maximum score achieved: 123 points (100 %)							
All results		3	2,1	Unacceptable result			
	>>>	142	98	Satisfactory result			

Sample B

(921) WBC - morphology

All results		8	5,5	Not specified			
		29	20	No changes			
		10	6,9	Hypergranulation/toxic granulation			
	>	24	17	Giant bands and metamyelocytes			
	>	30	21	Agranulation			
		12	8,3	Neutrophil hypersegmentation			
		5	3,4	Hyposegmentation / asegmentation / pelgeroid			
		2	1,4	Auer rods			
	>	41	28	Denuded nuclei/cells, nuclear shadows / smudge cells			
		2	1,4	Cytoplasmatic fragments			
	>	31	21	Vacuolisation			
		3	2,1	Lymphocytes - reactive forms			
		4	2,8	Lymphocytes - atypical forms (except "hairy")			
		1	0,7	Nucleus fragments of neutrophiles			
		6	4,1	Abnormal/leukemic promyelocytes			

(922) WBC - count changes (relative)

All results		4	2,8	Neutropenia			
	>	53	37	Neutrophilia			
	CVE >>>	139	96	Lymphocytopenia			
		7	4,8	Eosinophilia			
	CVE >>>	130	90	Basophilia			
	>	70	48	Monocytopenia			
	CVE >>>	140	97	Left shift			

(923) RBC - morphology

All results		1	0,7	No changes			
		2	1,4	Normocytosis			
		1	0,7	Macrocytosis			
	CVE >>>	141	97	Anisocytosis			
		4	2,8	Poikilocytosis			
	>	20	14	Eliptocytes, ovalocytes			
		38	26	Spherocytes			
		19	13	Stomatocytes			
	>	35	24	Dacryocytes			
		1	0,7	Echinocytes			
		2	1,4	Target cells			
	>	12	8,3	Schistocytes (and other fragmentocytes)			
	>	39	27	Polychromasia			
		2	1,4	Hypochromia			
		15	10	Basophilic stippling			
		2	1,4	Howell-Jolly bodies			

(924) Platelets - morphology

All results		1	0,7	Not specified			
	>	79	54	No changes			
	>	46	32	Large platelets			

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Sample Test Group	Frequency of the results				Success		
	AV	N _{tot}	N _{rel} [%]	Result	N _{eva}	N _{suc}	S _{rel} [%]
		9	6,2	Small platelets			
	>	32	22	Platelets hypogranulation			
	>	5	3,4	Megakaryocytic nucleus fragments			
(925) Clinical recommendation - smear assessment							
All results	CVE >>>	145	100	Blood smear is pathological			
(926) Clinical recommendation - examination							
All results	CVE >>>	145	100	An examination by the specialist/haematologist is recommended			
(927) Estimation of diagnosis							
All results		2	1,4	Anemia: Normocytosis			
		3	2,1	Acute leukemia: Without closer determination			
		6	4,2	Acute leukemia: AML (acute myeloid leukemia)			
		2	1,4	Myelodysplastic syndrome: Myelodysplastic syndrome			
	>	34	24	Chronic myeloproliferative disease: Exact determination impossible			
	CVE >>>	125	87	Chronic myeloproliferative disease: CML (chronic myelogenous leukaemia)			
		1	0,7	Chronic myeloproliferative disease: Myelofibrosis			
		1	0,7	Other: Other disease			
(928) How do you rate the technical quality of the smear?							
		144				0	
All results	±	144	100	Acceptable			
(929) How do you rate the staining of the smear?							
		143				0	
All results	±	143	100	Acceptable			
(939) Overall assessment (score)							
		145			145	141	97
Maximum score achievable: 75 points Criterion (60 % out of the maximum): 45 points							
Minimum score achieved: 35 points (46,7 %)							
Maximum score achieved: 75 points (100 %)							
All results		4	2,8	Unacceptable result			
	>>>	141	97	Satisfactory result			

Summary for all samples

(939) Overall assessment (score)	145	145	140	97
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