

EQA round: DIF3/23 - Peripheral Blood Morphology Evaluation

Deadline: 15.9.2023

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		3	2,5	Not specified		
	>	49	40	No changes		
		2	1,6	Hypergranulation/toxic granulation		
		1	0,8	Giant bands and metamyelocytes		
		24	20	Agranulation		
		4	3,3	Neutrophil hypersegmentation		
		13	11	Hyposegmentation / asegmentation / pelgeroid		
		3	2,5	Döhle bodies		
		19	16	Atypical/reactive/pathological monocytes/promono.		
		12	9,8	Denuded nuclei/cells, nuclear shadows / smudge cells		
	>	24	20	Vacuolisation		
		11	9	Lymphocytes - reactive forms		
		12	9,8	Lymphocytes - atypical forms (except "hairy")		
		1	0,8	Nucleus fragments of neutrophiles		

(922) WBC - count changes (relative)

All results		1	0,8	Normal count		
	CVE >>>	114	93	Neutrophilia		
		1	0,8	Lymphocytosis		
	CVE >>>	116	95	Lymphocytopenia		
	>	27	22	Monocytosis		
		1	0,8	Monocytopenia		
		6	4,9	Left shift		

(923) RBC - morphology

All results		5	4,1	Normocytosis		
		1	0,8	Microcytosis		
		1	0,8	Macrocytosis		
	CVE >>>	118	97	Anisocytosis		
	CVE >>>	78	64	Poikilocytosis		
	CVE >>>	113	93	Eliptocytes, ovalocytes		
		14	11	Spherocytes		
		5	4,1	Stomatocytes		
		6	4,9	Drepanocytes		
	CVE >>>	100	82	Dacryocytes		
	CVE >>>	63	52	Acanthocytes		
	CVE >>>	74	61	Echinocytes		
		1	0,8	Target cells		
	CVE >>>	101	83	Schistocytes (and other fragmentocytes)		
	>	30	25	Polychromasia		
	>	59	48	Hypochromia		
		9	7,4	Basophilic stippling		
		2	1,6	Howell-Jolly bodies		
		8	6,6	Rouleaux formation		

(924) Platelets - morphology

All results		1	0,8	Not specified		
		28	23	No changes		
	CVE >>>	86	70	Large platelets		
		5	4,1	Small platelets		
		4	3,3	Platelet aggregates		
		10	8,2	Platelets hypogranulation		
		1	0,8	Megakaryocytic nucleus fragments		

(925) Clinical recommendation - smear assessment

All results	CVE >>>	120	98	Blood smear is pathological		
		2	1,6	Blood smear within physiological limits or with reactive changes		

(926) Clinical recommendation - examination

All results	CVE >>>	120	98	An examination by the specialist/haematologist is recommended		
		2	1,6	An examination by the specialist/haematologist is not necessary		

(927) Estimation of diagnosis

All results	>	44	37	Anemia: Without closer determination		
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Setup: all data

Sample Test Group	Frequency of the results				Success		
	AV	N _{tot}	N _{rel} [%]	Result	N _{eva}	N _{suc}	S _{rel} [%]
	>	53	44	Anemia: Normocytosis			
		7	5,8	Anemia: Hypochromia			
		2	1,7	Anemia: Haemolytic			
	CVE >>>	34	28	Myelodysplastic syndrome: Myelodysplastic syndrome			
		2	1,7	Chronic myeloproliferative disease: Exact determination impossible			
		1	0,8	Chronic myeloproliferative disease: CML (chronic myelogenous leukaemia)			
		4	3,3	Chronic myeloproliferative disease: Myelofibrosis			
		4	3,3	Other: Other disease			
(928) How do you rate the technical quality of the smear?		120				0	
All results	±	116	97	Acceptable			
	±	4	3,3	Not acceptable (give a reason)			
(929) How do you rate the staining of the smear?		120				0	
All results	±	116	97	Acceptable			
	±	4	3,3	Not acceptable (give a reason)			
(939) Overall assessment		122			122	119	98
Maximum score achievable: 111 points				Criterion (60 % out of the maximum): 67 points			
Minimum score achieved: 39 points (35,1 %)							
Maximum score achieved: 111 points (100 %)							
All results		3	2,5	Unacceptable result			
	>>>	119	98	Correct result			

Sample B**(921) WBC - morphology**

All results		2	1,6	No changes			
		5	4,1	Hypergranulation/toxic granulation			
		2	1,6	Agranulation			
	>	28	23	Neutrophil hypersegmentation			
		1	0,8	Döhle bodies			
		5	4,1	Atypical/reactive/pathological monocytes/promono.			
	CVE >>>	115	94	Denuded nuclei/cells, nuclear shadows / smudge cells			
	>	39	32	Vacuolisation			
		23	19	LGL/big lymphocytes			
		22	18	Lymphocytes - reactive forms			
	CVE >>>	44	36	Lymphocytes - atypical forms (except "hairy")			

(922) WBC - count changes (relative)

All results		3	2,5	Not specified			
	CVE >>>	109	89	Normal count			
		1	0,8	Neutropenia			
		2	1,6	Neutrophilia			
		1	0,8	Lymphocytopenia			
		5	4,1	Basophilia			
		1	0,8	Monocytosis			
		1	0,8	Left shift			

(923) RBC - morphology

All results		22	18	No changes			
	CVE >>>	67	55	Normocytosis			
		1	0,8	Anisocytosis			
		6	4,9	Spherocytes			
		36	30	Stomatocytes			
		1	0,8	Target cells			
	CVE >>>	84	69	Hypochromia			
		1	0,8	Rouleaux formation			

(924) Platelets - morphology

All results		3	2,5	No changes			
	>	44	36	Large platelets			
		1	0,8	Small platelets			
	CVE >>>	118	97	Platelet aggregates			
		1	0,8	Platelet satellitism			
		4	3,3	Platelets hypogranulation			
		1	0,8	Megakaryocytic nucleus fragments			

(925) Clinical recommendation - smear assessment

All results	CVE >>>	95	78	Blood smear is pathological			
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Setup: all data

Sample Test Group	Frequency of the results			Success			
	AV	N _{tot}	N _{rel} [%]	Result	N _{eva}	N _{suc}	S _{rel} [%]
		27	22	Blood smear within physiological limits or with reactive changes			
(926) Clinical recommendation - examination							
All results	CVE >>>	97	80	An examination by the specialist/haematologist is recommended			
		25	20	An examination by the specialist/haematologist is not necessary			
(927) Estimation of diagnosis							
All results		3	2,5	Not specified			
		1	0,8	Chronic myeloproliferative disease: Exact determination impossible			
	CVE >>>	31	26	Mature lymphocytic cells neoplasms: Exact determination impossible			
	CVE >>>	27	23	Mature lymphocytic cells neoplasms: CLL (chronic lymphocytic leukaemia)			
		21	18	Platelets disorders: Thrombocytopenia			
		29	24	Platelets disorders: Other			
		36	30	Other: Other reactive changes			
		22	18	Other: Other disease			
(928) How do you rate the technical quality of the smear?							
All results		120				0	
	±	117	98	Acceptable			
	±	3	2,5	Not acceptable (give a reason)			
(929) How do you rate the staining of the smear?							
All results		120				0	
	±	116	97	Acceptable			
	±	4	3,3	Not acceptable (give a reason)			
(939) Overall assessment							
		122			122	118	97
Maximum score achievable: 87 points		Criterion (60 % out of the maximum): 53 points					
Minimum score achieved: 35 points (40,2 %)							
Maximum score achieved: 87 points (100 %)							
All results		4	3,3	Unacceptable result			
	>>>	118	97	Correct result			

Summary for all samples

(939) Overall assessment	122	122	116	95
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