

EQA round: DIF3/24 - Peripheral Blood Morphology Evaluation

Deadline: 13.9.2024

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		1	0,8	No changes		
		4	3,1	Hypergranulation/toxic granulation		
		7	5,5	Agranulation		
		2	1,6	Neutrophil hypersegmentation		
		2	1,6	Atypical/reactive/pathological monocytes/promono.		
CVE >>>	102	80	Denuded nuclei/cells, nuclear shadows / smudge cells			
>	14	11	Vacuolisation			
>	35	28	LGL/big lymphocytes			
CVE >>>	78	61	Lymphocytes - reactive forms			
CVE >>>	77	61	"Hairy" lymphocytes			
	39	31	Lymphocytes - atypical forms (except "hairy")			

(922) WBC - count changes (relative)

All results		3	2,4	Normal count		
CVE >>>	116	91	Neutropenia			
	1	0,8	Neutrophilia			
CVE >>>	125	98	Lymphocytosis			
	2	1,6	Monocytosis			
>	21	17	Monocytopenia			
	10	7,9	Left shift			

(923) RBC - morphology

All results	CVE >>>	82	65	No changes		
		42	33	Normocytosis		
		2	1,6	Macrocytosis		
		2	1,6	Anisocytosis		
		1	0,8	Poikilocytosis		
		5	3,9	Eliptocytes, ovalocytes		
		3	2,4	Spherocytes		
		19	15	Stomatocytes		
		1	0,8	Drepanocytes		
		11	8,7	Dacryocytes		
		12	9,4	Target cells		
		10	7,9	Polychromasia		
		3	2,4	Basophilic stippling		
		5	3,9	Howell-Jolly bodies		
		2	1,6	Rouleaux formation		
		1	0,8	Pappenheimer bodies		

(924) Platelets - morphology

All results	CVE >>>	59	46	No changes		
	>	65	51	Large platelets		
		3	2,4	Small platelets		
		2	1,6	Platelets hypogranulation		

(925) Clinical recommendation - smear assessment

All results		1	0,8	Not specified		
CVE >>>	104	82	Blood smear is pathological			
	22	17	Blood smear within physiological limits or with reactive changes			

(926) Clinical recommendation - examination

All results		1	0,8	Not specified		
CVE >>>	98	77	An examination by the specialist/haematologist is recommended			
	28	22	An examination by the specialist/haematologist is not necessary			

(927) Estimation of diagnosis

All results		1	0,8	Not specified		
		2	1,6	Physiological finding		
>	31	25	Mature lymphocytic cells neoplasms: Exact determination impossible			
	2	1,6	Mature lymphocytic cells neoplasms: CLL (chronic lymphocytic leukaemia)			

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Sample Test Group	Frequency of the results				Success		
	AV	N _{tot}	N _{rel} [%]	Result	N _{eva}	N _{suc}	S _{rel} [%]
	CVE >>>	55	44	Mature lymphocytic cells neoplasms: HCL (hairy cell leukaemia)			
		23	18	Other: Viral infection incl. inf. mononucleosis			
		39	31	Other: Other reactive changes			
		3	2,4	Other: Other disease			
(928) How do you rate the technical quality of the smear?		125				0	
All results	±	125	100	Acceptable			
(929) How do you rate the staining of the smear?		125				0	
All results	±	119	95	Acceptable			
	±	6	4,8	Not acceptable (give a reason)			
(939) Overall assessment (score)		127			127	115	91
Maximum score achievable: 93 points				Criterion (60 % out of the maximum): 56 points			
Minimum score achieved: 32 points (34,4 %)							
Maximum score achieved: 93 points (100 %)							
All results		12	9,4	Unacceptable result			
	>>>	115	91	Satisfactory result			

Sample B

(921) WBC - morphology

All results		2	1,6	No changes			
		13	10	Hypergranulation/toxic granulation			
		1	0,8	Giant bands and metamyelocytes			
		1	0,8	Agranulation			
	CVE >>>	122	96	Neutrophil hypersegmentation			
		1	0,8	Hyposegmentation / asegmentation / pelgeroid			
		1	0,8	Döhle bodies			
		2	1,6	Atypical/reactive/pathological monocytes/promono.			
		12	9,4	Denuded nuclei/cells, nuclear shadows / smudge cells			
		2	1,6	Cytoplasmatic fragments			
	>	40	31	Vacuolisation			
		2	1,6	LGL/big lymphocytes			
		10	7,9	Lymphocytes - reactive forms			
		2	1,6	Lymphocytes - atypical forms (except "hairy")			
		2	1,6	Nucleus fragments of neutrophiles			

(922) WBC - count changes (relative)

All results	CVE >>>	126	99	Neutrophilia			
	CVE >>>	123	97	Lymphocytopenia			
		1	0,8	Monocytopenia			
	CVE >>>	89	70	Left shift			

(923) RBC - morphology

All results		2	1,6	Normocytosis			
		1	0,8	Microcytosis			
	CVE >>>	124	98	Macrocytosis			
		5	3,9	Anisocytosis			
		11	8,7	Poikilocytosis			
	>	35	28	Eliptocytes, ovalocytes			
		11	8,7	Spherocytes			
		10	7,9	Stomatocytes			
		11	8,7	Dacryocytes			
		6	4,7	Acanthocytes			
		14	11	Echinocytes			
		5	3,9	Target cells			
	>	55	43	Schistocytes (and other fragmentocytes)			
		4	3,1	Polychromasia			
		2	1,6	Hypochromia			
		8	6,3	Howell-Jolly bodies			
		3	2,4	Rouleaux formation			
		1	0,8	Pappenheimer bodies			

(924) Platelets - morphology

All results	>	44	35	No changes			
	CVE >>>	74	58	Large platelets			
		8	6,3	Small platelets			
		20	16	Platelet aggregates			
		11	8,7	Platelets hypogranulation			
		2	1,6	Megakaryocytic nucleus fragments			

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Sample Test Group	Frequency of the results			Result	Success		
	AV	N _{tot}	N _{rel} [%]		N _{eva}	N _{suc}	S _{rel} [%]
(925) Clinical recommendation - smear assessment							
All results		1	0,8	Not specified			
	>	96	76	Blood smear is pathological			
	>	30	24	Blood smear within physiological limits or with reactive changes			
(926) Clinical recommendation - examination							
All results	>	69	54	An examination by the specialist/haematologist is recommended			
	>	58	46	An examination by the specialist/haematologist is not necessary			
(927) Estimation of diagnosis							
All results		3	2,4	Not specified			
		1	0,8	Physiological finding			
		25	20	Anemia: Macrocytosis			
		2	1,6	Myelodysplastic syndrome: Myelodysplastic syndrome			
		12	9,5	Chronic myeloproliferative disease: Exact determination impossible			
		2	1,6	Chronic myeloproliferative disease: CML (chronic myelogenous leukaemia)			
		2	1,6	Chronic myeloproliferative disease: Myelofibrosis			
		21	17	Platelets disorders: Thrombocytosis			
	CVE >>>	65	52	Other: Other reactive changes			
		52	41	Other: Other disease			
(928) How do you rate the technical quality of the smear?							
		125					0
All results	±	125	100	Acceptable			
(929) How do you rate the staining of the smear?							
		125					0
All results	±	124	99	Acceptable			
	±	1	0,8	Not acceptable (give a reason)			
(939) Overall assessment (score)							
		127					127 124 98
Maximum score achievable: 75 points		Criterion (60 % out of the maximum): 45 points					
Minimum score achieved: 32 points (42,7 %)							
Maximum score achieved: 75 points (100 %)							
All results		3	2,4	Unacceptable result			
	>>>	124	98	Satisfactory result			

Summary for all samples

(939) Overall assessment (score)		127					127 115 91
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