

EQA round: DIF4/24 - Peripheral Blood Morphology Evaluation

Deadline: 25.10.2024

Setup: all data

AV = assigned value	N _{tot} = total number of the results	N _{eva} = number of the results assessed
CVE = consensus of the experts	N _{rel} = relative number of the results	N _{suc} = number of successful results
>>> ... expected result		S _{rel} = relative success
> ... acceptable result		
± ... result not assessed		

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		5	3,1	No changes
		7	4,4	Hypergranulation/toxic granulation
	>	29	18	Giant bands and metamyelocytes
CVE >>>		78	49	Agranulation
	>	76	48	Neutrophil hypersegmentation
		4	2,5	Hyposegmentation / asegmentation / pelgeroid
		3	1,9	Auer rods
		1	0,6	Döhle bodies
	>	38	24	Atypical/reactive/pathological monocytes/promono.
		20	13	Denuded nuclei/cells, nuclear shadows / smudge cells
		9	5,7	Cytoplasmatic fragments
CVE >>>		117	74	Vacuolisation
		1	0,6	"Hairy" lymphocytes
		2	1,3	Lymphocytes - atypical forms (except "hairy")
		2	1,3	Nucleus fragments of neutrophiles
		3	1,9	Abnormal/leukemic promyelocytes

(922) WBC - count changes (relative)

All results	>	47	30	Neutropenia
		6	3,8	Neutrophilia
CVE >>>		150	94	Lymphocytopenia
CVE >>>		156	98	Eosinophilia
CVE >>>		79	50	Basophilia
	>	17	11	Monocytosis
		1	0,6	Monocytopenia
CVE >>>		147	92	Left shift

(923) RBC - morphology

All results	CVE >>>	150	94	Macrocytosis
	CVE >>>	151	95	Anisocytosis
		8	5	Poikilocytosis
	>	39	25	Eliptocytes, ovalocytes
	>	47	30	Spherocytes
CVE >>>		128	81	Stomatocytes
	>	20	13	Dacryocytes
		1	0,6	Echinocytes
		9	5,7	Schistocytes (and other fragmentocytes)
	>	32	20	Polychromasia
		3	1,9	Hypochromia
		11	6,9	Basophilic stippling
		1	0,6	Howell-Jolly bodies
		2	1,3	Rouleaux formation

(924) Platelets - morphology

All results		6	3,8	No changes
	CVE >>>	144	91	Large platelets
		3	1,9	Small platelets
	CVE >>>	104	65	Platelets hypogranulation
	>	26	16	Megakaryocytic nucleus fragments

(925) Clinical recommendation - smear assessment

All results	CVE >>>	159	100	Blood smear is pathological
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(926) Clinical recommendation - examination

All results	CVE >>>	159	100	An examination by the specialist/haematologist is recommended
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(927) Estimation of diagnosis

All results		7	4,5	Anemia: Macrocytosis
		8	5,1	Acute leukemia: Without closer determination
		18	12	Acute leukemia: AML (acute myeloid leukemia)
		10	6,4	Myelodysplastic syndrome: Myelodysplastic syndrome
CVE >>>		100	64	Chronic myeloproliferative disease: Exact determination impossible
	>	52	33	Chronic myeloproliferative disease: CML (chronic myelogenous leukaemia)
	>	5	3,2	Chronic myeloproliferative disease: Myelofibrosis

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Sample Test Group	Frequency of the results			Result	Success		
	AV	N _{tot}	N _{rel} [%]		N _{eva}	N _{suc}	S _{rel} [%]
		7	4,5	Platelets disorders: Thrombocytopenia			
		2	1,3	Other: Other disease			
(928) How do you rate the technical quality of the smear?		159					0
All results	±	159	100	Acceptable			
(929) How do you rate the staining of the smear?		159					0
All results	±	157	99	Acceptable			
	±	2	1,3	Not acceptable (give a reason)			
(939) Overall assessment (score)		159					159 151 95
Maximum score achievable: 117 points				Criterion (60 % out of the maximum): 71 points			
Minimum score achieved: 39 points (33,3 %)							
Maximum score achieved: 117 points (100 %)							
All results		8	5	Unacceptable result			
	>>>	151	95	Satisfactory result			

Sample B

(921) WBC - morphology

All results		5	3,1	Not specified			
	CVE >>>	100	63	No changes			
		15	9,4	Agranulation			
		7	4,4	Neutrophil hypersegmentation			
		5	3,1	Hyposegmentation / asegmentation / pelgeroid			
		1	0,6	Döhle bodies			
		8	5	Atypical/reactive/pathological monocytes/promono.			
		9	5,7	Denuded nuclei/cells, nuclear shadows / smudge cells			
		22	14	Vacuolisation			
		3	1,9	LGL/big lymphocytes			
		6	3,8	Lymphocytes - reactive forms			
		2	1,3	"Hairy" lymphocytes			
		4	2,5	Lymphocytes - atypical forms (except "hairy")			

(922) WBC - count changes (relative)

All results		1	0,6	Normal count			
	CVE >>>	156	98	Neutrophilia			
	CVE >>>	155	97	Lymphocytopenia			
	>	23	14	Basophilia			
		14	8,8	Monocytosis			
		1	0,6	Monocytopenia			
		26	16	Left shift			

(923) RBC - morphology

All results		141	89	Macrocytosis			
	CVE >>>	156	98	Anisocytosis			
		40	25	Poikilocytosis			
	CVE >>>	69	43	Eliptocytes, ovalocytes			
		17	11	Spherocytes			
		29	18	Stomatocytes			
		1	0,6	Drepanocytes			
		4	2,5	Dacryocytes			
		5	3,1	Acanthocytes			
		29	18	Echinocytes			
	CVE >>>	153	96	Target cells			
	CVE >>>	102	64	Schistocytes (and other fragmentocytes)			
	>	24	15	Polychromasia			
		17	11	Hypochromia			
	CVE >>>	158	99	Basophilic stippling			
	CVE >>>	92	58	Howell-Jolly bodies			
		2	1,3	Cabot rings			
		9	5,7	Rouleaux formation			
	CVE >>>	110	69	Pappenheimer bodies			

(924) Platelets - morphology

All results		59	37	No changes			
	CVE >>>	98	62	Large platelets			
		1	0,6	Small platelets			
		10	6,3	Platelets hypogranulation			
		1	0,6	Megakaryocytic nucleus fragments			

(925) Clinical recommendation - smear assessment

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Setup: all data

Sample Test Group	AV	N _{tot}	N _{rel} [%]	Frequency of the results Result	Success		
					N _{eva}	N _{suc}	S _{rel} [%]
All results	CVE >>>	158	99	Blood smear is pathological			
		1	0,6	Blood smear within physiological limits or with reactive changes			
(926) Clinical recommendation - examination							
All results	CVE >>>	158	99	An examination by the specialist/haematologist is recommended			
		1	0,6	An examination by the specialist/haematologist is not necessary			
(927) Estimation of diagnosis							
All results		1	0,6	Not specified			
	>	56	36	Anemia: Without closer determination			
		1	0,6	Anemia: Hypochromia			
	>	65	42	Anemia: Macrocytosis			
		24	15	Anemia: Haemolytic			
		8	5,1	Anaemia: Thalassemia and other congenital anaemias			
	>	60	38	Myelodysplastic syndrome: Myelodysplastic syndrome			
		2	1,3	Chronic myeloproliferative disease: Exact determination impossible			
		1	0,6	Chronic myeloproliferative disease: CML (chronic myelogenous leukaemia)			
		1	0,6	Chronic myeloproliferative disease: Myelofibrosis			
		1	0,6	Mature lymphocytic cells neoplasms: Exact determination impossible			
		2	1,3	Platelets disorders: Other			
		1	0,6	Other: Other reactive changes			
		3	1,9	Other: Other disease			
(928) How do you rate the technical quality of the smear?		159					0
All results	±	157	99	Acceptable			
	±	2	1,3	Not acceptable (give a reason)			
(929) How do you rate the staining of the smear?		159					0
All results	±	158	99	Acceptable			
	±	1	0,6	Not acceptable (give a reason)			
(939) Overall assessment (score)		159					159 157 99
Maximum score achievable: 123 points		Criterion (60 % out of the maximum): 74 points					
Minimum score achieved: 32 points (26 %)							
Maximum score achieved: 123 points (100 %)							
All results		2	1,3	Unacceptable result			
	>>>	157	99	Satisfactory result			

Summary for all samples

(939) Overall assessment (score)	159	159	151	95
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