

SUMMARY STATISTICS

EQA round: NF1/18 - Peripheral Blood Smears - Photos

Dead line (EQA round closed): 20.04.2018

Professional Czech Haematological Society
supervision: National Reference Laboratory for Haematology

Key:	>>>	... marks correct (expected) result
	>	... marks conditionally correct (acceptable) result

Photo 1

Object no.1 WBC and other nucleous elements - types of cells		3	Neutrophil myelocyte	3,8 %		
		38	Monocyte	48 %		
		>>> 39	Lymphocyte	49 %		
	WBC - morphology		> 38	No changes	48 %	
			1	Hypogranulation/agranulation	1,3 %	
			10	Atypical/reactive monocytes	13 %	
			5	LGL/big lymphocytes	6,3 %	
			>>> 19	Lymphocytes - reactive forms	24 %	
			9	Lymphocytes - atypical forms	11 %	
	Object no.2 WBC and other nucleous elements - types of cells	>>>	60	Lymphocyte	75 %	
		2	Plasma cell	2,5 %		
		18	Erythroblast	23 %		
WBC - morphology		>>>	35	No changes	44 %	
			3	Nucleocytoplasmatic asynchrony	3,8 %	
			18	Lymphocytes - reactive forms	23 %	
			2	"Hairy" lymphocytes	2,5 %	
			10	Lymphocytes - atypical forms	13 %	
Object no.3 WBC and other nucleous elements - types of cells	>>>	79	Monocyte	99 %		
	WBC - morphology	>>>	63	No changes	79 %	
			12	Atypical/reactive monocytes	15 %	
	7	Vacuolisation	8,8 %			
Object no.4 WBC and other nucleous elements - types of cells		1	Neutrophil segment	1,3 %		
		25	Eosinophil segment	31 %		
		>>> 53	Basophiles	66 %		
	WBC - morphology	>>>	51	No changes	64 %	
			1	Hypergranulation/toxic granulation	1,3 %	
			9	Hypogranulation/agranulation	11 %	
			1	Hyposegmentation or pseudo Pelger anomaly	1,3 %	
			1	Nucleocytoplasmatic asynchrony	1,3 %	
			> 16	Vacuolisation	20 %	
		RBC - morphology		4	Microcytosis	5,0 %
				6	Macrocytosis	7,5 %
			>>> 70	Anisocytosis	88 %	
	> 15		Poikilocytosis	19 %		
	7		Eliptocytes, ovalocytes	8,8 %		
	2		Spherocytes	2,5 %		
	>>> 56		Stomatocytes	70 %		
	>>> 73		Dacryocytes	91 %		
	8		Acanthocytes	10 %		
	> 32		Echinocytes	40 %		
	> 32		Target cells	40 %		
	>>> 48		Schistocytes (and other fragmentocytes)	60 %		
	>>> 69		Polychromasia	86 %		
	>>> 40		Hypochromia	50 %		
	>>> 79		Basophilic stippling	99 %		
	14		Howell-Jolly bodies	18 %		
	8		Rouleaux formation	10 %		
	1	Pappenheimer bodies	1,3 %			
	8	Anisochromia	10 %			
	> 27	Knizocytes	34 %			

Photo 2

Object no.1 WBC and other nucleous elements - types of cells WBC - morphology		7	Neutrophil bar	8,8 %	
	>>>	72	Neutrophil segment	90 %	
		1	Plasma cell	1,3 %	
		12	Hypergranulation/toxic granulation	15 %	
		1	Giant bands and metamyelocytes	1,3 %	
		5	Hypogranulation/agranulation	6,3 %	
	>	29	Hyposegmentation or pseudo Pelger anomaly	36 %	
		14	Döhle bodies	18 %	
	>>>	80	Vacuolisation	100 %	
Object no.2 WBC and other nucleous elements - types of cells WBC - morphology		15	Neutrophil metamyelocyte	19 %	
	>>>	59	Neutrophil bar	74 %	
	>>>	5	Neutrophil segment	6,3 %	
		1	Plasma cell	1,3 %	
		15	No changes	19 %	
	>>>	17	Hypogranulation/agranulation	21 %	
	>>>	13	Hyposegmentation or pseudo Pelger anomaly	16 %	
	>>>	58	Döhle bodies	73 %	
		1	Nucleocytoplasmatic asynchrony	1,3 %	
Object no.3 WBC and other nucleous elements - types of cells WBC - morphology	>>>	79	Neutrophil segment	99 %	
		1	No changes	1,3 %	
	>>>	28	Hypogranulation/agranulation	35 %	
	>	20	Hyposegmentation or pseudo Pelger anomaly	25 %	
	>>>	67	Döhle bodies	84 %	
	1	Nucleus fragments of neutrophiles	1,3 %		
Object no.4 WBC and other nucleous elements - types of cells WBC - morphology	>>>	48	Neutrophil myelocyte	60 %	
	>>>	30	Neutrophil metamyelocyte	38 %	
		1	Neutrophil bar	1,3 %	
	>>>	55	No changes	69 %	
		8	Hypergranulation/toxic granulation	10 %	
		2	Hypogranulation/agranulation	2,5 %	
		2	Hyposegmentation or pseudo Pelger anomaly	2,5 %	
		7	Döhle bodies	8,8 %	
		5	Nucleocytoplasmatic asynchrony	6,3 %	
Object no.5 WBC and other nucleous elements - types of cells WBC - morphology		3	Neutrophil metamyelocyte	3,8 %	
	>>>	66	Neutrophil bar	83 %	
	>>>	10	Neutrophil segment	13 %	
		5	No changes	6,3 %	
	>>>	70	Hypogranulation/agranulation	88 %	
	>>>	12	Hyposegmentation or pseudo Pelger anomaly	15 %	
		4	Döhle bodies	5,0 %	
		1	Nucleocytoplasmatic asynchrony	1,3 %	
		1	Nucleus fragments of neutrophiles	1,3 %	
	RBC - morphology		1	Microcytosis	1,3 %
		>	22	Macrocytosis	28 %
		>>>	46	Anisocytosis	58 %
		8	Poikilocytosis	10 %	
		11	Eliptocytes, ovalocytes	14 %	
>>>		74	Spherocytes	93 %	
		28	Stomatocytes	35 %	
>>>		30	Dacryocytes	38 %	
		7	Target cells	8,8 %	
		3	Schistocytes (and other fragmentocytes)	3,8 %	
		5	Polychromasia	6,3 %	
>>>		59	Howell-Jolly bodies	74 %	
		10	Pappenheimer bodies	13 %	
>		19	Anisochromia	24 %	
	5	Knizocytes	6,3 %		

Photo 3

Object no.1 WBC and other nucleous elements - types of cells WBC - morphology		1	Monocyte	1,3 %
	>>>	62	Lymphocyte	78 %
		11	Plasma cell	14 %
		6	Erythroblast	7,5 %
	>	52	No changes	65 %
	>>>	15	Lymphocytes - reactive forms	19 %

Photo 3

Object no.1 WBC - morphology		10	Lymphocytes - atypical forms	13 %
Object no.2 WBC and other nucleous elements - types of cells	>>>	78	Neutrophil segment	98 %
		1	Eosinophil segment	1,3 %
		1	Monocyte	1,3 %
WBC - morphology	>>>	51	No changes	64 %
		16	Hypergranulation/toxic granulation	20 %
		15	Hyposegmentation or pseudo Pelger anomaly	19 %
		3	Döhle bodies	3,8 %
		1	Vacuolisation	1,3 %
Object no.3 WBC and other nucleous elements - types of cells	>>>	79	Monocyte	99 %
WBC - morphology	>>>	59	No changes	74 %
		1	Hypergranulation/toxic granulation	1,3 %
		1	Hyposegmentation or pseudo Pelger anomaly	1,3 %
		17	Atypical/reactive monocytes	21 %
		7	Vacuolisation	8,8 %
RBC - morphology	>	20	No changes	25 %
	>	14	Normocytosis	18 %
		10	Microcytosis	13 %
		1	Macrocytosis	1,3 %
		16	Anisocytosis	20 %
		2	Poikilocytosis	2,5 %
	>	38	Eliptocytes, ovalocytes	48 %
	>	31	Spherocytes	39 %
		7	Dacryocytes	8,8 %
		1	Polychromasia	1,3 %
		3	Howell-Jolly bodies	3,8 %
		1	Cabot rings	1,3 %
		1	Pappenheimer bodies	1,3 %
		4	Anisochromia	5,0 %
	>	13	Knizocytes	16 %
Platelets - morphology	>>>	74	No changes	93 %
		2	Anisocytosis	2,5 %
		4	Platelets hypogranulation	5,0 %

Photo 4

Object no.1 WBC and other nucleous elements - types of cells		2	Neutrophil bar	2,5 %
	>>>	77	Neutrophil segment	96 %
		1	Eosinophil segment	1,3 %
WBC - morphology	>>>	53	No changes	66 %
		5	Hypergranulation/toxic granulation	6,3 %
		4	Hypogranulation/agranulation	5,0 %
		18	Hyposegmentation or pseudo Pelger anomaly	23 %
		1	Döhle bodies	1,3 %
		1	Vacuolisation	1,3 %
		1	Lymphocytes - reactive forms	1,3 %
Object no.2 WBC and other nucleous elements - types of cells		7	Neutrophil myelocyte	8,8 %
		1	Eosinophil - immature form	1,3 %
		1	Eosinophil segment	1,3 %
WBC - morphology	>>>	71	Basophiles	89 %
	>>>	69	No changes	86 %
		4	Hypergranulation/toxic granulation	5,0 %
		3	Nucleocytoplasmatic asynchrony	3,8 %
Object no.3 WBC and other nucleous elements - types of cells		1	Lymphocyte	1,3 %
WBC - morphology	>>>	78	Bare nuclei, smudge cell	98 %
		18	No changes	23 %
		1	Nucleus fragments of neutrophiles	1,3 %
Object no.4 WBC and other nucleous elements - types of cells		2	Neutrophil bar	2,5 %
	>>>	76	Neutrophil segment	95 %
		1	Monocyte	1,3 %
WBC - morphology	>>>	73	Hypogranulation/agranulation	91 %
		6	Hyposegmentation or pseudo Pelger anomaly	7,5 %
		7	Döhle bodies	8,8 %
		1	Atypical/reactive monocytes	1,3 %
		2	Nucleocytoplasmatic asynchrony	2,5 %
	>>>	77	Vacuolisation	96 %

Photo 4

Object no.4 WBC - morphology	3	Nucleus fragments of neutrophiles	3,8 %
RBC - morphology	3	Normocytosis	3,8 %
	7	Macrocytosis	8,8 %
	>>> 50	Anisocytosis	63 %
	8	Poikilocytosis	10 %
	>>> 64	Eliptocytes, ovalocytes	80 %
	> 25	Spherocytes	31 %
	> 61	Stomatocytes	76 %
	> 28	Dacryocytes	35 %
	>>> 20	Acanthocytes	25 %
	>>> 59	Target cells	74 %
	37	Schistocytes (and other fragmentocytes)	46 %
	4	Polychromasia	5,0 %
	1	Hypochromia	1,3 %
	2	Basophilic stippling	2,5 %
	>>> 22	Howell-Jolly bodies	28 %
	3	Rouleaux formation	3,8 %
	> 36	Pappenheimer bodies	45 %
	2	Anisochromia	2,5 %
	2	Knizocytes	2,5 %
	Platelets - morphology	>>> 78	Large platelets
>>> 73		Anisocytosis	91 %
1		Platelet aggregates	1,3 %
5		Platelets hypogranulation	6,3 %
2		Megakaryocytic nucleus fragments	2,5 %

Evaluation of the results - scoring system

NF1/18

	Photo 1	Photo 2	Photo 3	Photo 4
Maximal achievable score:	75	90	35	75
Successful participants (success 60 % and more):	54 (it is 68 %)	57 (it is 71 %)	56 (it is 70 %)	74 (it is 93 %)
Minimal success in this round:	12,0 %	2,2 %	-5,7 %	1,3 %
Maximal success in this round:	100,0 %	88,9 %	100,0 %	93,3 %
Number of participants: 80				
Number of participants that succeeded:	in all 4 photos:	35 (it is 44 %)		
	in 3 photos:	23 (it is 29 %)		
	in 2 photos:	12 (it is 15 %)		
	in 1 photo:	8 (it is 10 %)		
	in no photo:	2 (it is 3 %)		