



ECVP/ESVP Summer School in Veterinary Pathology



Summer School 2009 – Clinical Pathology C383-08

Boxer, 18 months old, male. Fever and depression

CBC is reported below

Eritrociti x 10 ⁹ /μl	3,09	5,5-8,5	Hb (g/dl)	7,7	12-18
Eritrociti nucleati (%)	0,00	rari	Ht (%)	24	37-55
Eritr. nucleati x 100 ⁹ /μl	0,00	rari	RDW	16,90	12-17
Reticolociti (%)	3,02	<1,5	MCV (fl)	77,67	60-77
Indice di prod. retic. (RPI)	0,546	>1<2	MCHC (%)	32,08	32-36
Morfologia eritrocitaria			MCH (pg)	24,92	19-24

Proteine plasmatiche (g/dl)	4,9-7,9
Fibrinogeno (g/dl)	<0,2
Icterus Index	2-5

Piastrine x 10 ⁹ /μl	98,00	200-500
Stima piastrinica	NA	A = adeguata
MPV (fl)		8,5-13
PCT (%)		0,2-0,4
PDW		8-18

Leucociti x 10 ⁹ /μl	138,78	6-19,5	6-19,5
Neutrofili (%)	61,00	60-70	(x 10 ⁹ /μl) 84,66 3-11,5
Band neutrofili (%)	3,00	<3	(x 10 ⁹ /μl) 4,16 <0,2
Eosinofili (%)	1,00	2-10	(x 10 ⁹ /μl) 1,39 0,1-1,2
Basofili (%)	0,00	rari	(x 10 ⁹ /μl) 0,00 rari
Linfociti (%)	6,00	12-30	(x 10 ⁹ /μl) 8,33 1-4,8
Monociti (%)	3,00	3-10	(x 10 ⁹ /μl) 4,16 0,1-1,5
Non class. (%)	26,00	0	(x 10 ⁹ /μl) 36,08 0

Morfologia leucocitaria

Altri esami effettuati

Smear description:

Cellularity: RBCs and platelets appear severely decreased, WBCs seems to be moderately increased

Erythron: Moderate anisocytosis and echinocytes (likely artefactual)

Thrombon: platelets are occasionally large, with abnormal shapes and hypergranular

Leukon:

The majority of the cells are neutrophils, mostly mature, often with clear / pink cytoplasm with granules and occasional Dohle bodies. A moderate number of bands (less than 10% of PMNs) are present

A relatively abundant (approximately 25%) population of “unclassified” cells, which are round with abundant slightly basophilic cytoplasm without evident granules or vacuoles and a central round to oval or indented nucleus with regular chromatin and inconspicuous nucleoli is present. Morphology of these cells is consistent with myeloid precursors, likely of monocytic origin (monoblasts?)

Lymphocytes are not abundant and do not show morphological abnormalities

Monocytes are rare and characterized by large, irregularly shaped or bean shaped nuclei, and abundant slightly basophilic and vacuolated cytoplasm.



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Hematological diagnosis:

Moderate slightly macrocytic normochromic and not adequately regenerative anemia associated with extreme leukocytosis with neutrophilia and monocytosis. Both neutrophilia and monocytosis are characterized by the presence of immature cells.

Comment:

The most striking abnormality in this dog regards the leukogram, which is consistent with an acute / subacute inflammation, although the large number of myeloid precursors could be also consistent with an acute myeloid leukaemia. This latter hypothesis is unlikely due to the young age of the dog, but to definitely exclude it a bone marrow with evaluation of the percentage of blast should be recommended (consistent with leukaemia if blasts are more than 30%). Flow cytometry and/or cytochemistry to identify the “myeloid” cells detected on the smear are also suggested.

SCORING

Cellularity	0,5 pts
Comments on RBCs and platelets	1 pt
Description of mature and band neutrophils	1 pt
Description of the “unclassified cells”	2 pts
Other cell populations	1 pt
Hematological diagnosis	1 pt
Comments on the Dd inflammation / leukaemia	1 pt
Recommendation on additional tests	1 pt
TOTAL	8,5 pts