



# ECVP/ESVP Summer School in Veterinary Pathology



## Summer School 2009 – Clinical Pathology C360-09

**American Staffordshire Terrier male 10 years. Dyspnea. X-rays are consistent with a pulmonary neoplasia OR lung lobe torsion. Mucous membranes are pale.**

**Biochemistry WRI, the CBC is reported below.**

Eritrociti x 100 <sup>3</sup> /μl	<b>3,47</b>	5,5-8,5				Hb (g/dl)	<b>8,1</b>	12-18
Eritrociti nucleati (%)	<b>0,00</b>	rari				Ht (%)	<b>23,7</b>	37-55
Eritr. nucleati x 100 <sup>3</sup> /μl	<b>0,00</b>	rari				RDW	<b>14,60</b>	12-17
Reticolociti (%)	<b>4,60</b>	<1,5				MCV (fl)	<b>68,30</b>	60-77
Indice di prod. retic. (RPI)	<b>0,825</b>	>1<2				MCHC (%)	<b>34,18</b>	32-36
Morfologia eritrocitaria						MCH (pg)	<b>23,34</b>	19-24
Proteine plasmatiche (g/dl)		4,9-7,9				Piastrine x 10 <sup>3</sup> /μl	<b>149,00</b>	200-500
Fibrinogeno (g/dl)		<0,2				Stima piastrinica		A = adeguata
Icterus Index		2-5				MPV (fl)		8,5-13
						PCT (%)		0,2-0,4
						PDW		8-18
Leucociti x 10 <sup>3</sup> /μl	<b>36,75</b>	6-19,5				Altri esami effettuati		
Neutrofili (%)	<b>92,00</b>	60-70	(x 10 <sup>3</sup> /μl)	<b>33,81</b>	3-11,5			
Band neutrofili (%)	<b>0,00</b>	<3	(x 10 <sup>3</sup> /μl)	<b>0,00</b>	<0,2			
Eosinofili (%)	<b>2,00</b>	2-10	(x 10 <sup>3</sup> /μl)	<b>0,74</b>	0,1-1,2			
Basofili (%)	<b>0,00</b>	rari	(x 10 <sup>3</sup> /μl)	<b>0,00</b>	rari			
Linfociti (%)	<b>3,00</b>	12-30	(x 10 <sup>3</sup> /μl)	<b>1,10</b>	1-4,8			
Monociti (%)	<b>3,00</b>	3-10	(x 10 <sup>3</sup> /μl)	<b>1,10</b>	0,1-1,5			
Non class. (%)	<b>0,00</b>	0	(x 10 <sup>3</sup> /μl)	<b>0,00</b>	0			
Morfologia leucocitaria								

### Smear description

Cellularity: RBCs appears slightly decreased, Platelets and WBC severely increased

#### Erythron:

RBCs have a normal morphology, except for a slight anisocytosis

#### Thrombon:

Platelet estimate is adequate. Platelet clumps are present. Platelets anisocytosis and signs of platelet cavitation (hypergranularity) are also present

#### Leukon:

The large majority of cells (more than 90%) are mature neutrophils (sometimes hypersegmented). Occasionally toxic signs (Dhole bodies) are present. Immature (bands) neutrophils are rare (less than 1% of neutrophils)



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Other cell populations include monocytes, which are large, with abundant slightly basophilic cytoplasm, often containing variably sized vacuoles, and rare lymphocytes, which appears morphologically normal, except for a few cells which intensely basophilic cytoplasm.

Hematological diagnosis:

Moderate normocytic normochromic non adequately regenerative anemia and neutrophilic leukocytosis without left shift. Moderate signs of leukocyte responsiveness (Dohle bodies, activated monocytes and lymphocytes) are also present.

Comment:

The evaluation of the CBC and of cell morphology is consistent with a subacute chronic inflammatory process. Specifically, the characteristics of the anemia, the thrombocytosis and the presence of neutrophilic leukocytosis are consistent with inflammation. The relative paucity of bands neutrophils and the activation of monocytes and lymphocytes support the hypothesis of a subacute-chronic process. In turn, this finding allows excluding an acute / infectious cause and supports both the clinical diagnoses, since both a non septic condition such as lung lobe torsion and a “foreign body reaction” such as the body response to tumours can induce a “chronic” stimulation of the immune system.

SCORING:

Cellularity	0,5 pts
Erythron	0,5 pts
Thrombon	0,5 pts
Leukon:	
Mature PMNs	1 pt
Rare signs of toxicity	0,5 pts
Activated lymphs	0,5 pts
Activated monocytes	1 pt
Hematological diagnosis	1 pt
Comment	
Inflammation	0,5 pts
Chronic	0,5 pts
Correlation with clinical findings	0,5 pts
<b>TOTAL</b>	<b>7 pts</b>