

Basophilia in a cat

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Signalment: 5-year-old male neutered domestic shorthair cat

History: The patient presented with a 6-week history of lethargy and pica. Pyrexia of one month duration and signs of gastrointestinal disease (GI) (soft feces, intermittent vomiting) were also reported.

Clinical findings: The cat was quiet, alert and responsive with a body condition score of 5/5, weighing 7.6 kg. The mucous membranes were pink with a capillary refill time less than two seconds. Thoracic auscultation and abdominal palpation were unremarkable. Rectal temperature was 40.1°C and the peripheral lymph nodes were normal.

Laboratory findings: On presentation, a CBC was performed on Advia (Siemens Healthcare Diagnostics, Inc., Tarrytown, NY) 2120 and manual differential leukocyte count – Table 1. Salient microscopic findings are illustrated in Figure 1 (right and left). Plasma biochemistry (Randox RX Imola; Randox Laboratories Ltd, Crumlin, Co. Antrim, UK) was unremarkable except for a moderate decrease in urea (3.1 mmol/L, RI 6.6 – 10 mmol/L) and a mild hypernatremia (157.1 mmol/L, RI 147 – 156 mmol/L). Total calcium was within reference

interval, as were cobalamin and folate concentrations. Urine culture revealed no growth and the patient was negative for *Toxoplasma gondii*, FIV/FeLV, and *Giardia* spp infection.

Table 1. CBC upon presentation at University College Dublin Veterinary Hospital (UCDVH)

Analyte	Results	Reference range	Units
HCT	0.26	0.24 – 0.45	L/L
Hgb	86	81 - 142	g/L
RBC	5.39	5 - 10	$\times 10^{12}/L$
MCV	47.7	39 – 55	fL
MCHC	334	300 - 360	g/L
Retics	14.2	0 - 70	$\times 10^9/L$
Platelets	53	180 - 550	$\times 10^9/L$
MPV	22.7	8.6 - 18.9	fL
WBC	36.75	6 - 18	$\times 10^9/L$
Neutrophils	10.29	2.5 – 12.5	$\times 10^9/L$
Lymphocytes	0.37	1.5 - 7	$\times 10^9/L$
Monocytes	0.74	0.04 - 0.85	$\times 10^9/L$
Eosinophils	21.32	0 – 1.5	$\times 10^9/L$
Basophils	4.04	0 – 0.04	$\times 10^9/L$

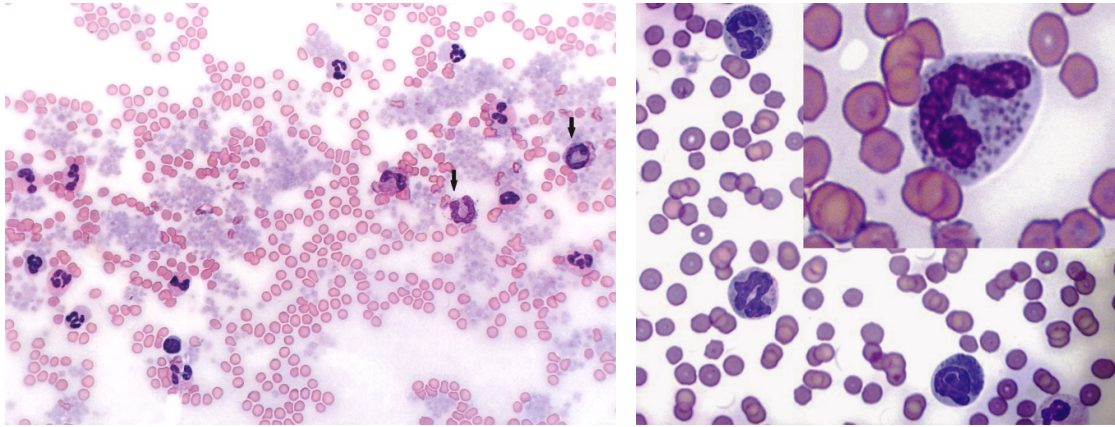


Figure 1. Blood smear (left) x40 objective; (right) x100 objective. Inset: detail of the cytoplasmic granules. Romanowsky

FNA of mesenteric and sternal lymph node:

Cytologic findings: a representative photomicrograph is provided (Figure 2)

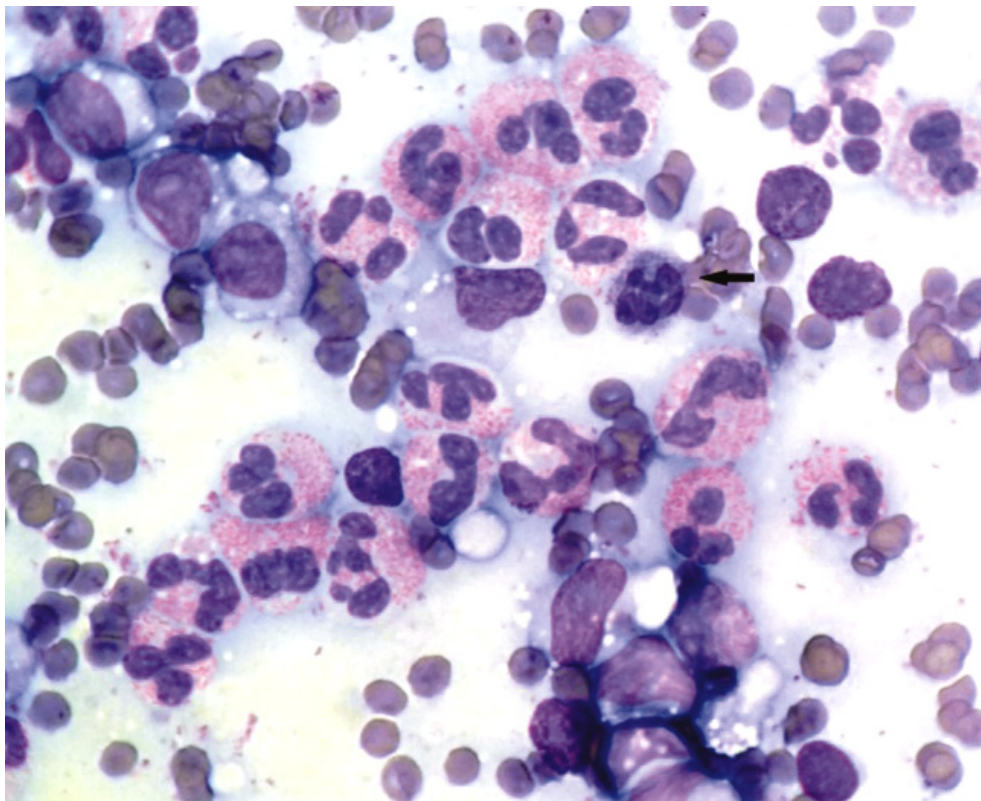


Figure 2. Photomicrograph of the mesenteric lymph node. Romanowsky – x100 oil objective

Questions:

1. What is your presumptive diagnosis based on the cytological findings?
2. What diagnostic test would you recommend to further characterize this condition?
3. What is the significance of the eosinophilia and basophilia in the peripheral blood?
4. How are basophils usually identified and reported?