

Synovial fluid from a dog with polyarthritis

A. Meléndez Lazo^{1,2}, M. Fernández^{1,2}, L. Solano-Gallego², J. Pastor^{1,2}

¹Fundació Hospital Clínic Veterinari

²Department of Animal Medicine and Surgery

Universitat Autònoma de Barcelona

Edificio V, Campus UAB, 08206 Bellaterra (Barcelona)

Tel: +34646812476

E-mail: Antonio.melendez@uab.cat

Case presentation

Signalment:

A 4 years old, neutered female, 27kg, Alaskan malamute.

History:

The dog was referred with a 10 weeks history of reluctance to stand up and walk, which was intermittent and partially responded to NSAIDs and steroids. The dog had no other signs of disease and was current on vaccination (last vaccine 6 months before presentation) and parasite control.

Physical examination:

The dog was slightly lethargic during consultation. It was reluctant to move and stand up, obviously painful when trying to stand up, and walking with a stiff gait. The general physical examination was unremarkable (HR 104 bpm, RR 36 rpm, T 38.5^o), except for slightly prominent popliteal lymph nodes. However, the dog showed severe pain in several joints, especially in the carpi.

Tests performed

CBC, biochemistry and urine analysis is cited in Table 1 to 4. Abdominal ultrasound and thoracic radiographs were unremarkable. Carpi radiographs showed a slight

increase of the soft tissue surrounding the carpus with no signs of erosion or other bone abnormalities. Cytological findings of synovial fluid are shown in figures. 1-2.

NOTE: Treatment was initiated in day 3.

Table 1. Complete Blood Count

Parameter	Day 1	Day 38	Reference Interval	Units
Hematocrit	39	39	37 - 55	%
Red blood cells	5.8	5.7	5.5 - 8.5	x10 ⁶ /μL
Hemoglobin	13.2	14.1	12 - 18	g/dL
MCV	67.2	68.4	62 - 77	fL
MCH	22.7	24.7	21.5 - 26.5	pg
MCHC	33.8	36.1	33 - 37	g/dL
White blood cells	6370	13330	6000 - 17000	x/μL
Segmented neutrophils	4332	12264	3000 - 11500	x/μL
Band neutrophils	0	0	0 - 300	x/μL
Lymphocytes	1401	267	1000 - 4800	x/μL
Monocytes	127	800	150 - 1350	x/μL
Eosinophils	510	0	100 - 1500	x/μL
Basophils	0	0	0 - 200	x/μL
Platelets	313	449	200 - 500	x10 ³ /μL

Table 2. Serum biochemistry

Parameter	Day 1	Day 38	Reference Interval	Units
Glucose	106.9	-	65 - 118	mg/dL
BUN	23.1	34	21.4 - 59.9	mg/dL
Creatinine	0.89	1.23	0.5 - 1.5	mg/dL
Cholesterol	191.1	-	135 - 270	mg/dL
Total proteins	6.46	-	6 - 8	g/dL
Total bilirubin	0.19	-	0.1 - 0.5	mg/dL
ALP	50.03	4324	20 - 156	U/L
ALT	23	860	21 - 102	U/L
GGT	1	366	1.2 - 6.4	U/L
CK	116.1	-	10 - 150	U/L
Calcium	10	-	9 - 11.3	mg/dL
Phosphorus	3.82	-	2.6 - 6.2	mg/dL
Sodium	141.0	-	141 - 152	mmol/L
Potassium	3.79	-	3.5 - 5.4	mmol/L
Chloride	111	-	105 - 115	mmol/L

Table 3. Serum protein electrophoresis (day 1)

Parameter	Value	Reference Interval	Units
Albumin	2.65	2.6 - 3.3	g/dL
α1 Globulins	0.33	0.2 - 0.5	g/dL
α2 Globulins	0.97	0.3 - 1.1	g/dL
β Globulins	1.67	0.9 - 1.6	g/dL
γ Globulins	0.75	0.3 - 0.8	g/dL

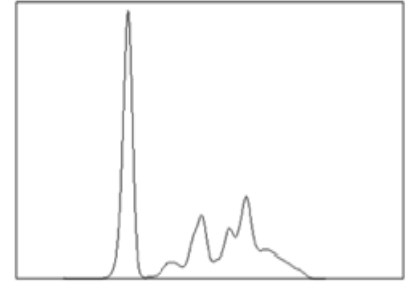


Table 4. Urine analysis.

Method of collection: Cystocentesis

Parameter	Day 1
Specific gravity (ref)	1.030
pH	5.0
Glucose	Negative
Ketones	Negative
Bilirubin	Negative
Proteins	1+
Blood	Negative
Leukocytes	Negative
Sediment	Normal

Figure 1. Cytospin preparation from synovial fluid FNA.200x (Quick Panoptic Stain).

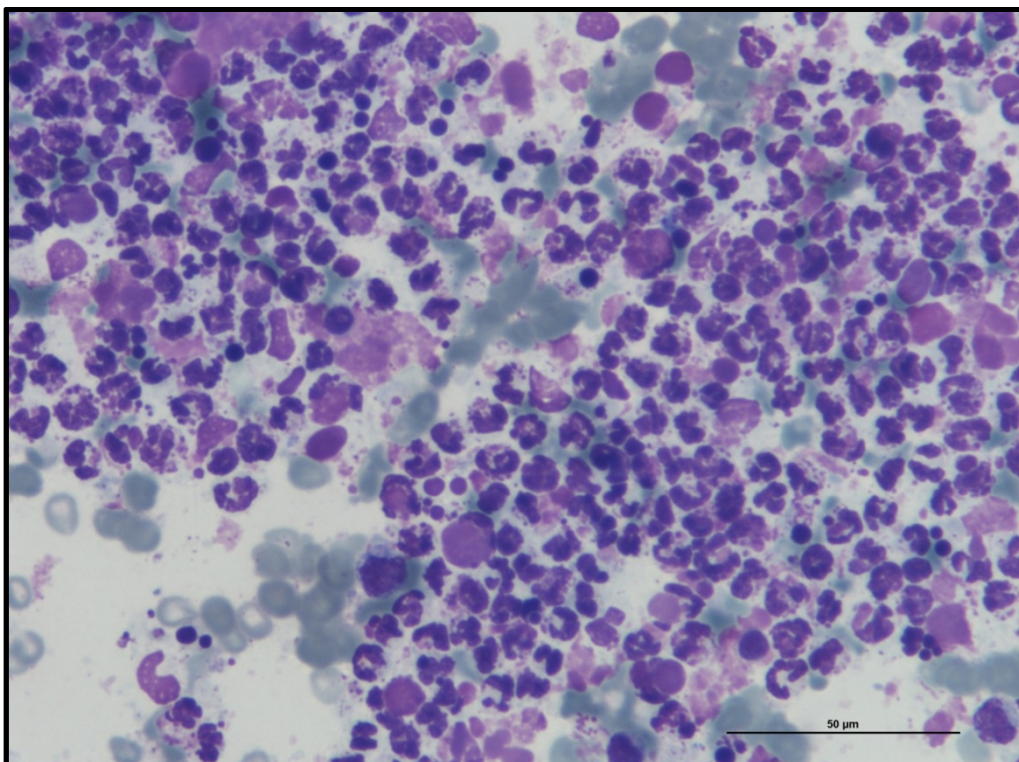
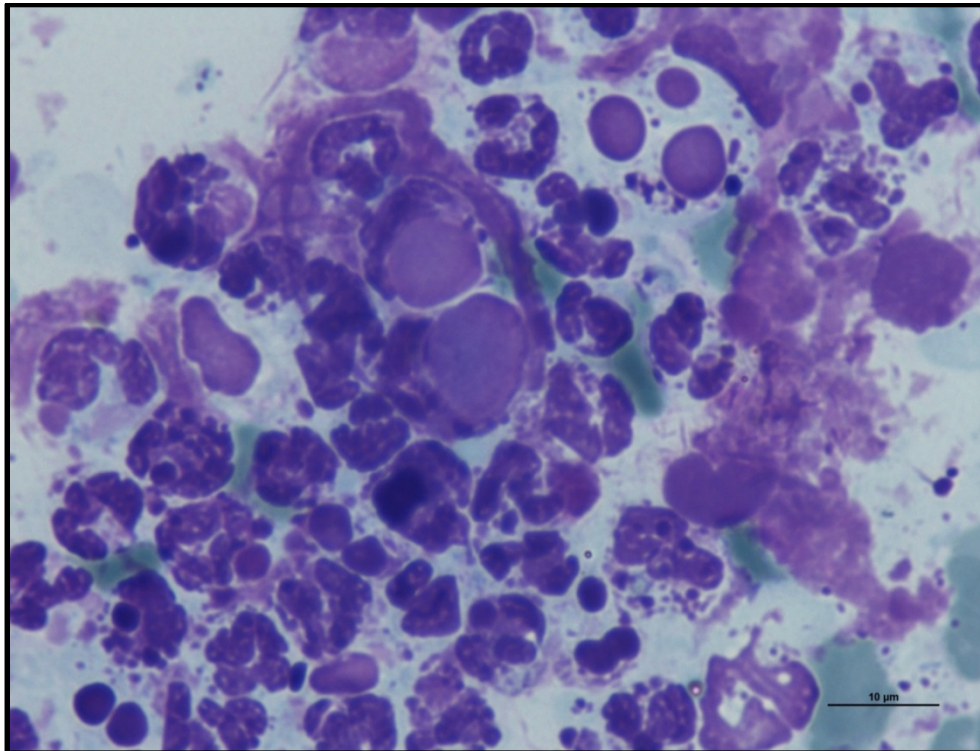


Figure 2. Cytospin preparation from synovial fluid FNA.400x (Quick Panoptic Stain).



Questions:

1. What is your cytological diagnosis? What type of cells can you identify in figures above?
2. Suggest further tests that should be performed in this patient due to geographic location (Mediterranean basin) and clinical findings.