

Adipocytes into synovial fluid

Contributors

Agulla Pérez, Beatriz¹, Vizcaíno Revés, Núria², Velarde Nieto Roser¹, Estruch Morente Josep¹, Pastor Milan, Josep¹

- ¹. Departament de Medicina i Cirurgia Animals, Facultat de Veterinària, Universitat Autònoma de Barcelona (UAB), Edifici V, Campus UAB, 08193 Bellaterra (Barcelona), Spain.
- ². Small animal surgery department, Anicura Ars Veterinaria, Carrer dels Cavallers, 37, 08034 Barcelona, Spain.

Specimen

Direct smears from the synovial fluid of the left knee

Signalment

A 2-year-old neutered male, Bullmastiff, dog

History

The animal was presented with a history of chronic lameness of the left hindlimb that had progressively worsened over time. The dog had not been on any treatment and had no other previous clinical illness.

Clinical findings

Physical examination revealed a left hindlimb lameness VI/X. No other remarkable finding was found. Orthopedic examination showed left stifle effusion, medial buttress without cranial tibial thrust. The dog had a body condition of 7 of 9.

Diagnostic test

Radiography of the left stifle joint showed increased soft tissue opacity compatible with joint effusion and signs of new bone formation at the patella apex (Figure 1).

Complete blood cell count and standard serum biochemical profile carried out as a pre-anesthetic evaluation were within the reference values.

Due to radiography results an MRI was performed. MRI showed increase in synovial fluid, extension of the joint space caudomedial and proximal to the patella. Thinning of the cranial cruciate ligament, with mildly increased signal on proton density (DP), fat suppression (FS) and STIR sequences was detected. An irregular appearance of the synovium, similar to the subcutaneous adipose tissue, was also detected on T2 and DP FS sequences (Figure 2).

A synoviocentesis was performed and direct smears were prepared from the synovial fluid for cytological evaluation (Figures 3 to 6).

Questions

1. What is your description of the synovial fluid smears?
2. What is your cytological interpretation?
3. Which other tests would you recommend in this animal to confirm the preliminary diagnosis?

Figures



Figure 1. Lateral stifle radiograph demonstrating increase soft tissue opacity at the level of the fat pad (arrowheads) and new bone formation at the apex of the patella (arrow).

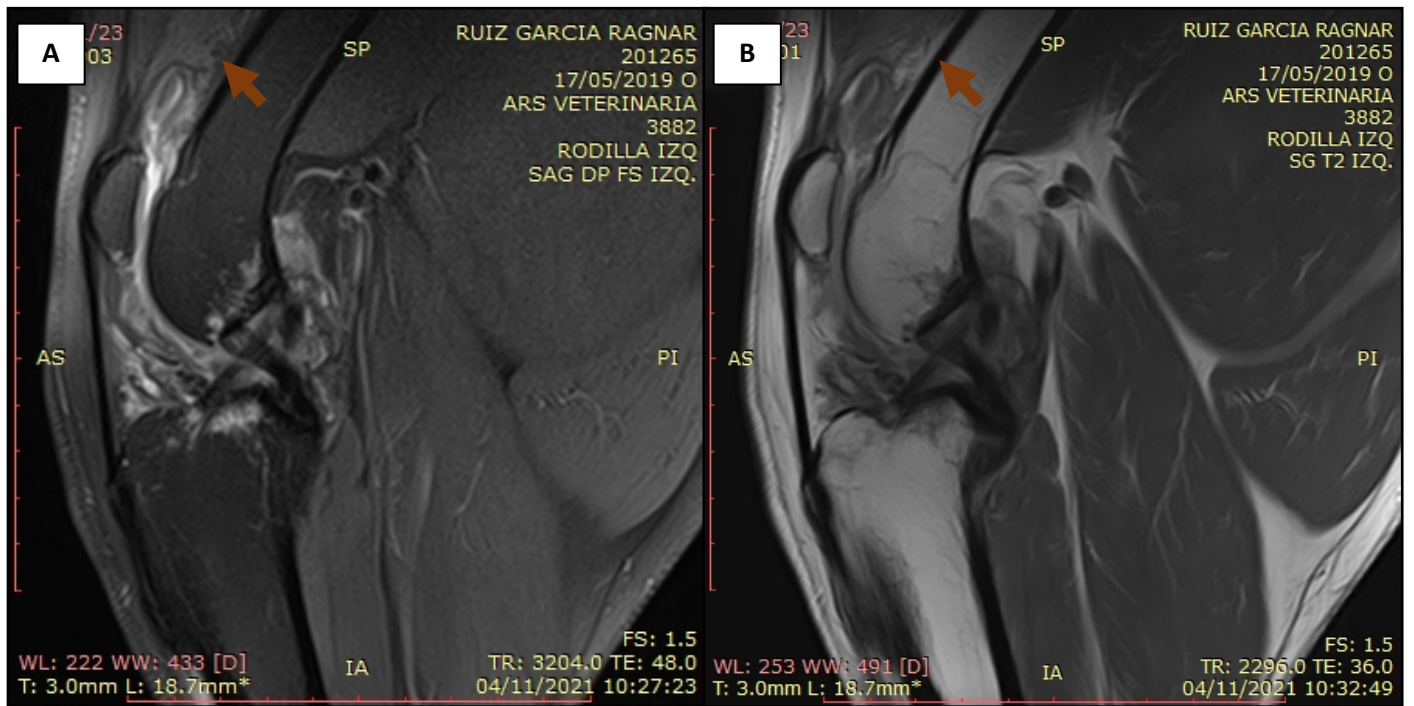


Figure 2. Irregular appearance of the synovium (arrows) with sagittal DP FS (A) and sagittal T2 (B)

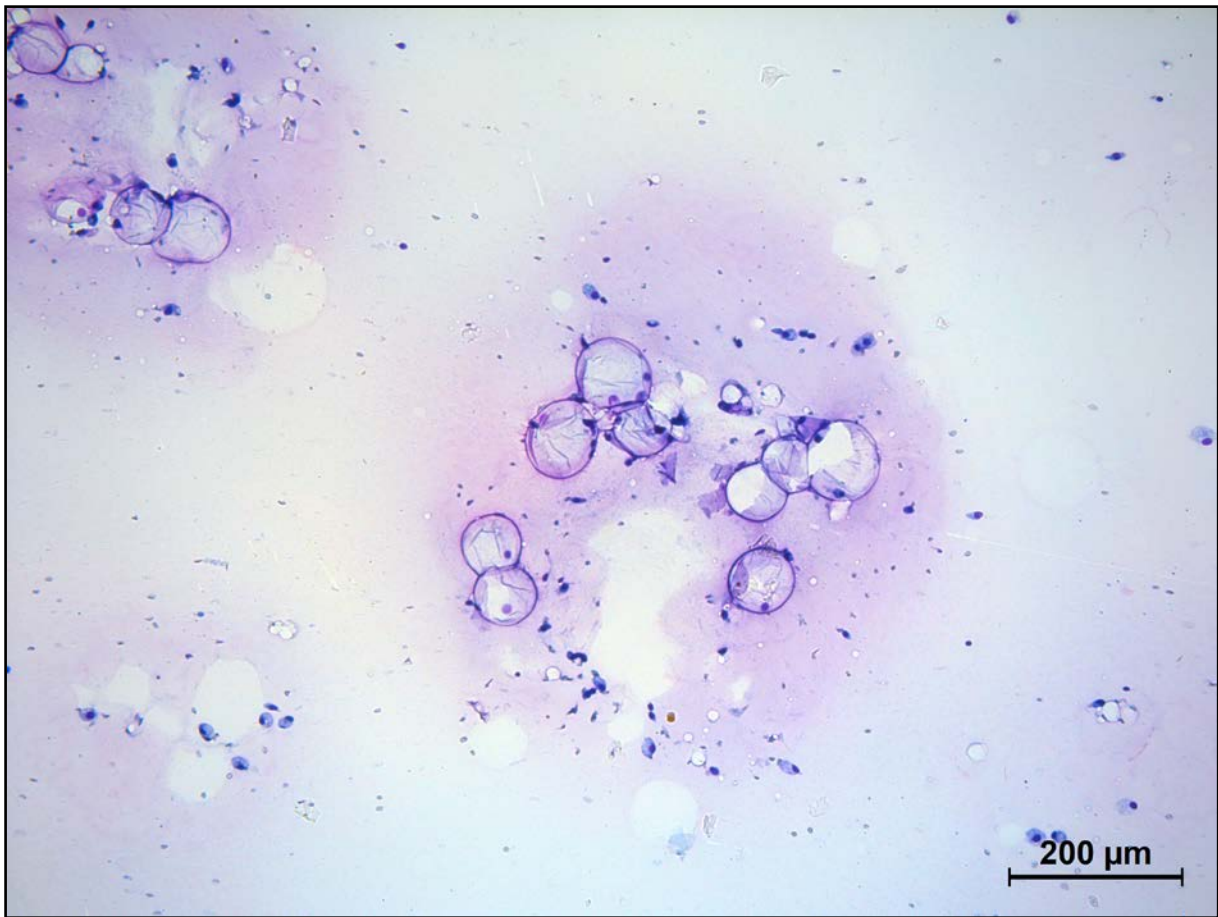


Figure 3. Cytological photomicrograph of the left stifle synovial fluid direct smear. Aqueous Romanowsky stain, x10 objective.

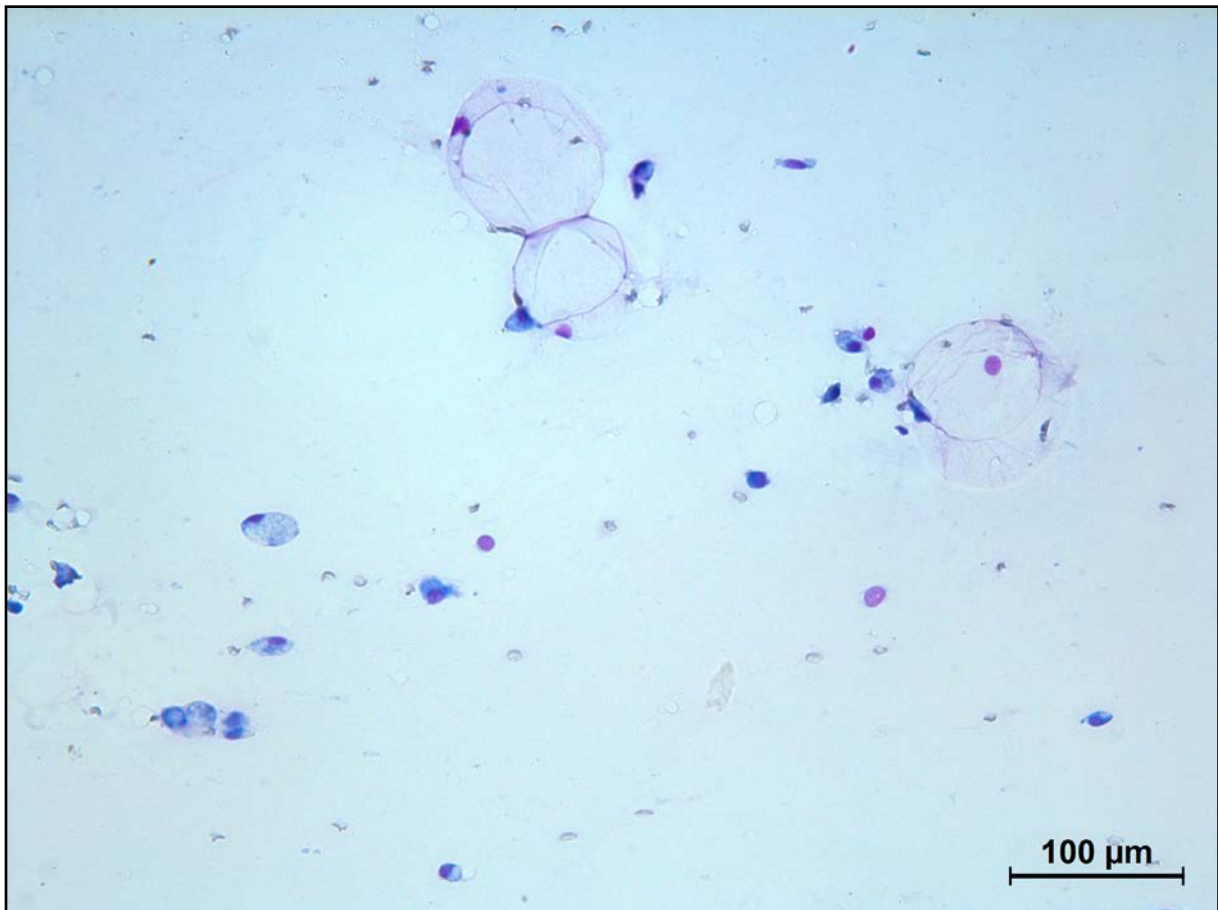


Figure 4. Cytological photomicrograph of the left stifle synovial fluid direct smear. Aqueous Romanowsky stain, x20 objective.

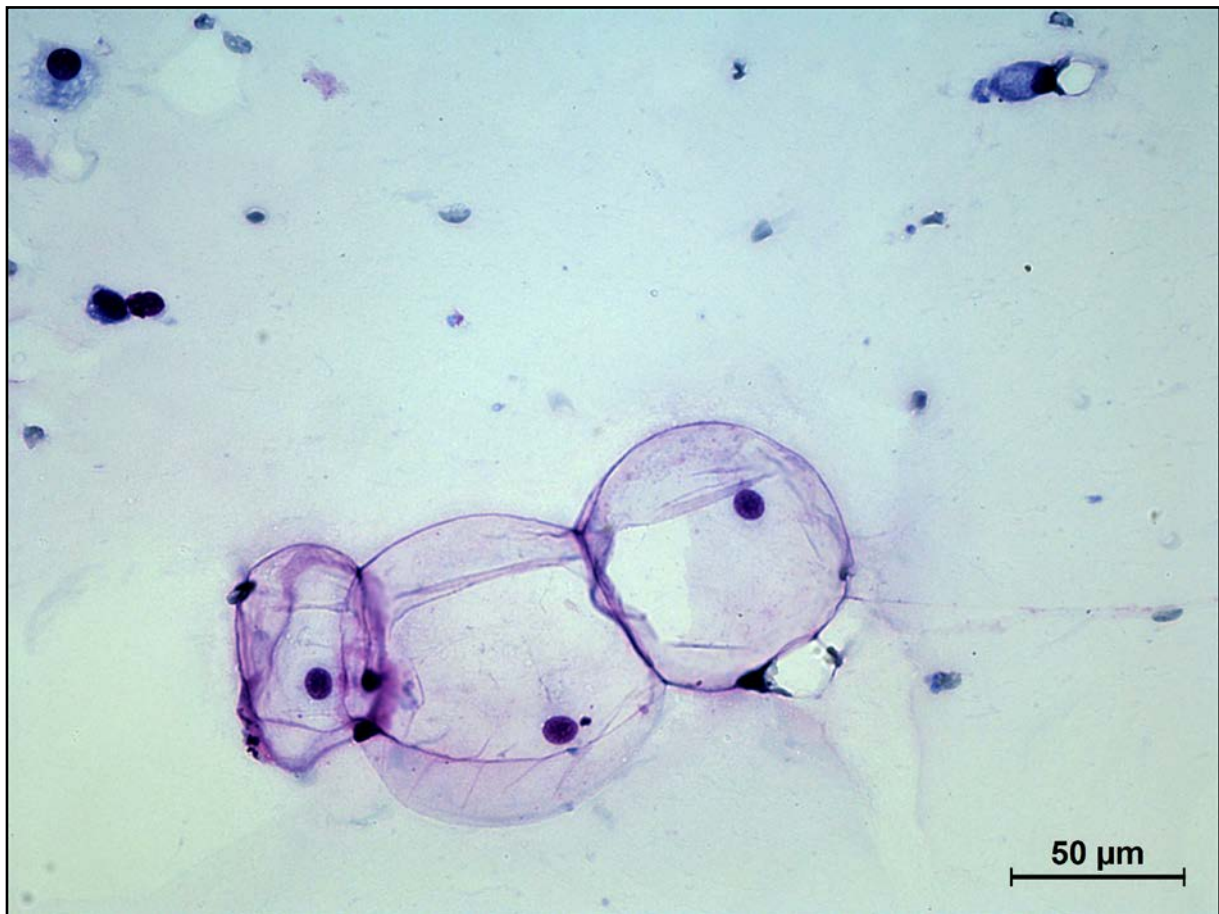


Figure 5. Cytological photomicrograph of the left stifle synovial fluid direct smear. Aqueous Romanowsky stain, x40 objective.



Figure 6. Cytological photomicrograph of the left stifle synovial fluid direct smear. Aqueous Romanowsky stain, x40 objective.