IT'S YOUR CASE

Species: Canine Breed: Greyhound Sex: Male Neutered Age: 4.5 years (30/10/2015)

Clinical History:

Acutely non weightbearing in the left hind limb after a game of chase in the park 9 days ago.
He has a splint in place prior to referral. He has an abrasion of dorsal pes and entire pes is swollen.

Anatomic regions: Tarsus/foot

Details of study and technical comments:

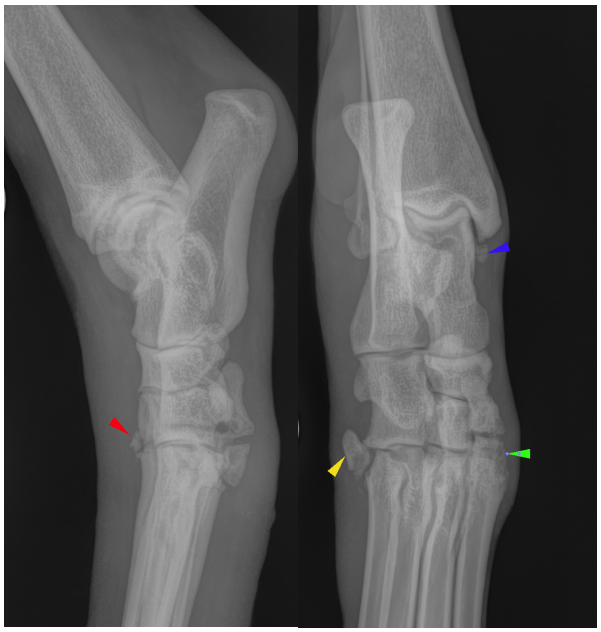
A radiographic examination of both tarsi was received for interpretation, including multiple mediolateral and dorsopalmar radiographs and stressed views. The examination is of diagnostic quality.

Diagnostic interpretation:

The soft tissues surrounding the entire left tarsus are increased in volume, predominantly over the lateral side. More uniformly increased volume of soft tissues is also seen descending distally over the entire pes.

A small and well-defined semi-circular mineral opacity structure is positioned over the distal aspect of the medial malleolus of the left tibia (blue arrowhead); it has a smooth distal contour and a sharp, well-defined proximal contour. A small spur is seen over the adjacent medial malleolus. The medial aspect of the left tibiotarsal joint is mildly widened in neutral position (green arrowhead).

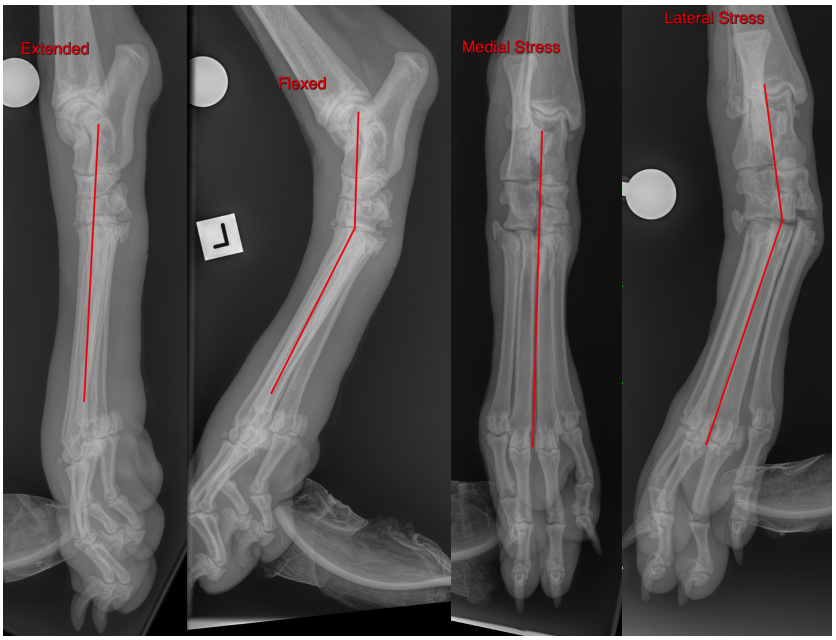
Multiple fracture lines cross the proximolateral aspect of the left fifth metatarsus, resulting in a large triangular fragment (yellow arrowhead) displaced mildly proximally and multiple smaller and less defined fragments. The fracture lines are sharp and well-defined. The second largest fragment is oval shaped. Peri-articular new bone formation is seen at the dorsal joint margins of the left tarsometatarsal joint. A sharply defined mineral opacity structure is also present at same level (red arrowhead). The medial aspects of the proximal second metatarsal, second, and central tarsal bones are mildly irregular in contour with periosteal new bone formation.



A mild amount of dorsal periarticular new bone formation is seen at the right tarsometarsal joint. Otherwise, the right tibiotarsal and tarsometatarsal joints are unremarkable. No abnormal angulation is seen on the stressed views.

STRESSED VIEWS

The left tarsometatarsal joint shows increased lateral angulation with stress with marked widening of the medial aspect of the tarsometatarsal joint and increased flexion (red lines). Despite suspected medial widening of the left tibiotarsal joint at rest, when stressed it shows no additional widening compared to the contralateral side.



Conclusions:

- Severe instability/subluxation of the left tarsometatarsal joint, with associated fractures of the fifth metatarsal (comminuted, articular), and dorsal third or fourth metacarpus (chip). A fracture of the proximal aspect of the second metatarsal cannot be excluded. Mild pre-existing osteoarthrosis.
- Avulsion fracture/enthesopathy of the left medial malleolus, without current evidence of instability on stressed radiographs.
- Severe soft tissue swelling consistent with trauma (haemorrhage/oedema).
- Mild osteoarthrosis of the right tarsometatarsal joint.

Additional comments:

The findings are consistent with plantar and medial instability. This can be due to ligamentous insufficiency or loss of stability from the fractures present along the tarsometatarsal joints. Although no current instability of the tibiotarsal joint is seen, the fragment is suspicious of avulsion of insertion of the collateral ligament and weakening of some of the ligamentous support would be anticipated.

Computed tomography may more completely characterise the fragments while high resolution and highly skilled sonography can improve understanding of the soft tissue structures (long and short parts of the medial collateral ligaments).