Dr. Norman Ackerman

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UF College of Veterinary Medicine
UNIVERSITY of FLORIDA

Dr. Norman Ackerman served the University of Florida, College of Veterinary Medicine with distinction as Professor of Radiology from 1979 to 1994. A concerned teacher of veterinary students and residents of all disciplines, Dr. Ackerman also reached the veterinary scientific community through his writing. His numerous clinically pertinent publications are still today a vital part of the veterinary literature; therefore, it is appropriate this site perpetuates Dr Ackerman's dedication to teaching. This site is presented in recognition of Dr. Norman Ackerman and his contributions to the field of veterinary diagnostic imaging.

Sponsorship of the display supports the Dr. Norman Ackerman Memorial Fund, dedicated to the teaching of diagnostic imaging residents at the University of Florida College of Veterinary Medicine.

NORMAN ACKERMAN MEMORIAL

RADIOGRAPHY CASE CHALLENGE

AUGUST'13

- Male-castrated, 8 year-old Greyhound

- Male-castrated Greyhound.
- 8 years-old.

- He was running in the yard this morning and became acutely non-weighting bearing.

- You ordered radiographs of the left crus.

Mediolateral

Craniocaudal

What are your radiographic findings?

USING THE “ABCS”

- A for Alignment
- B for Bone
- C for “Cartilage” / Joint
- S for Soft tissues

Radiographic findings

- A for Alignment

- A complete, comminuted, spiral fracture of the distal tibial diaphysis is seen, with presence of several fracture fragments, with the largest one being located medially to the fracture site and measuring approximately 56 mm in length. There is cranial, medial, and proximal displacement of the distal main fracture fragment. A transverse fracture of the distal left fibula diaphysis is also noted.

Radiographic findings

- B for Bones

- Centered on the left distal tibial metaphyseal region, a mixed osteolytic (moth-eaten to permeative lysis) and osteoproliferative (irregular and interrupted osseous proliferation) process is noted, with ill-defined zone of transition. Associated to that, a complete, comminuted, spiral fracture of the distal tibial diaphysis is seen, with presence of several fracture fragments, with the largest one being located medially to the fracture site and measuring approximately 56 mm in length. A transverse fracture of the distal left fibula diaphysis is also noted. Adjacent to that, multiple irregular gas lucencies are seen, which are likely related to the open nature of this fracture.

Radiographic findings

- C for “Cartilage” / Joint
- There is no evidence of articular involvement.

Radiographic findings

- S for adjacent Soft tissues
- Mild amount of surrounding soft tissue swelling is noted around the distal crus.

Putting together

Radiographic findings

- Centered on the left distal tibial metaphyseal region, a mixed osteolytic (moth-eaten to permeative lysis) and osteoproliferative (irregular and interrupted osseous proliferation) process is noted, with ill-defined zone of transition. Associated to that, a complete, comminuted, spiral fracture of the distal tibial diaphysis is seen, with presence of several fracture fragments, with the largest one being located medially to the fracture site and measuring approximately 56 mm in length. There is cranial, medial, and proximal displacement of the distal main fracture fragment. A transverse fracture of the distal left fibula diaphysis is also noted. Adjacent to that, multiple irregular gas lucencies are seen, which are likely related to the open nature of this fracture. Surrounding soft tissue swelling is noted around the distal crus.

What is your conclusion?

Aggressive bone lesion centered on the left distal tibial metaphysis with secondary pathologic, comminuted and open fracture of the distal tibial diaphysis, and transverse fracture of the distal fibular diaphysis, and surrounding soft tissue edema and/or hemorrhage. The primary differential is primary bone neoplasia, such as osteosarcoma. Other differentials include metastatic osseus neoplasia, round cell tumor or infeccious disease, such as fungal osteomyelitis.

WHAT YOU DO NEXT?

- 3-view thoracic study to stage for pulmonary metastasis
- Thoracic CT, whole-body CT or bone scintigraphy may be warranted.

The end

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