

WHAT IS YOUR DIAGNOSIS

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Signalment

A 3-month-old female mixed-breed puppy

History

The strayed puppy walked without using a deformed left forelimb. Chronic wound was presented on the lateral surface of the left elbow area. Traumatic history was unclear. Puppy had normal physiological appearance.

Clinical Examination

Chronic superficial wound was found without any bone crepitation. Rigid range of motion was diagnosed in both left elbow and left carpal joints. There was mild soft tissue swelling around the left carpal area.

Radiographic Examination

After wound dressing and bandaging, a puppy had further radiographic examinations. Standard mediolateral and craniocaudal radiographic views of the left forelimb were taken for further investigation.



Figure 1A, B Medirolateral and craniocaudal radiographs of the left forelimb.
Figure 2 Malformed forelimb after wound bandaging.

Give your diagnosis and turn to the next page.

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Radiographic findings

Mediolateral and craniocaudal radiographs of the left forelimb (Fig.1A, B) showed an obvious limb curvature and malformation of the elbow and radio/ulna-carpal joints. There was an absence of the proximal epiphysis, metaphysis and diaphysis of the left radius. Distal epiphysis of the left radius could still be detected as a piece of round-shaped bone opacity. Thicken and bowed ulna was observed on the mediolateral radiograph (Fig. 1A). Mild soft tissue swelling was present along the antebrachial of the left forelimb.

Radiographic diagnosis

Hemimelia of the left radius



Figure 3 Mediolateral radiograph shows the distal epiphysis of the left radius that was presented as a small round-shaped bone (black arrow). The bent ulna with mild thickening of the bone cortex was detected (white arrows).

Discussion

Hemimelia is the agenesis (partial or complete) or hypoplasia of one of a pair bone which usually be in the radius or ulna and occasionally in the tibia or fibula. The metacarpal, metatarsal and phalangeal bones can also be affected. These anomalies can be detected at or shortly after birth. The puppy usually has malformed limb that is shorter than the other. Cause of agenesis of long bone hypoplasia is often associated with a utero-environmental factor.

Reference

- Barr F.J. 2006. Hemimelia. Long Bones- Juvenile. In: BSAVA Manual of Canine and Feline Musculoskeletal Imaging. British Small Animal Veterinary Association. Gloucester. p 25.
- Pollard R.E. and Wisner E.R. 2013. Disorders Primarily Affecting Bone. Orthopedic Disease of Young and Growing Dogs and Cats. In: Textbook of Veterinary Diagnostic Radiology. 6th ed. Elsevier Saunder Company. Missouri. p 271- 273.