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OSTEOPERIOSTITIS IN THE RADIUS OF A HORSE TREATED WITH DIMETHYL SULFOXIDE (DMSO)*

(Case report)

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Case history:

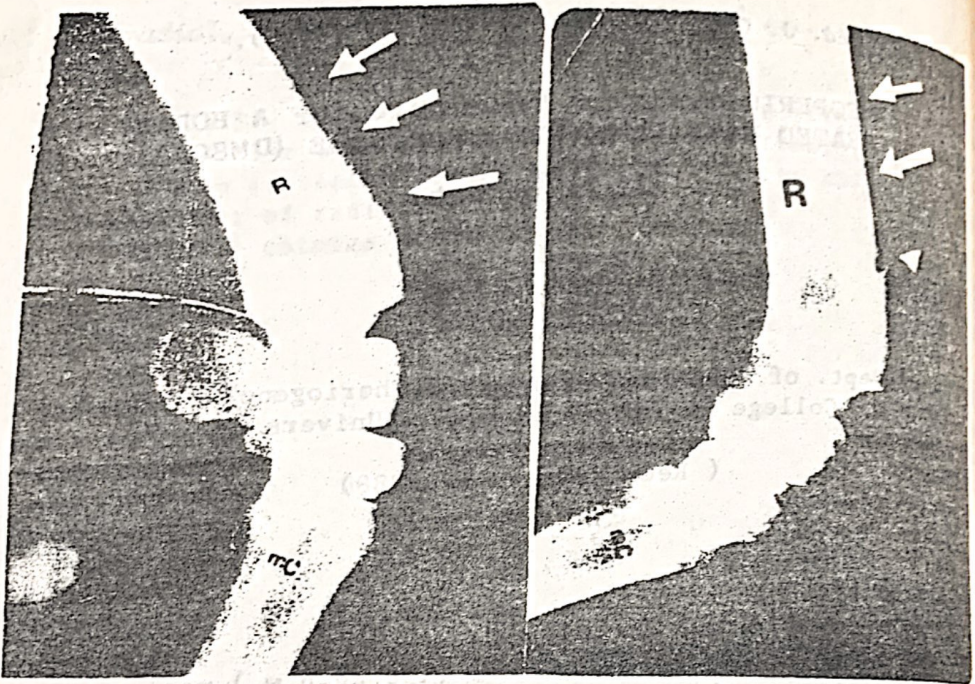
An eight years old male horse (450 kg.b.w.) was presented to the Department of Surgery, Faculty of Veterinary Medicine, Cairo University with a history of motor car accident over the left fore arm, and severe degree of lameness 12 days duration. There was firm severe painful swelling and tenderness over the anterior surface of the radius and carpal regions, associated with oedema of the distal limb. The horse evidenced severe lameness at walk and rested the limb in standing.

Radiographs showed marked active periosteal reaction of the distal one third of the radius and carpal joint. Periostitis was seen extending from the distal metaphysis of the radius upward on its dorsal surface (Fig. 1).

Treatment:

The horse was treated with phenylbutazone (Kahira, Pharm. Co.) at the dose rate of 4.4 mg/kg. b.w. I.V.

* DMSO (DIAMOND Laboratories, INC.).



ig. 1: Latero medial view of the left radius of a horse. There is a marked active periosteal reaction of the distal third of the radius.

Fig. 2: Latero medial view, after treatment. Resolution of periostitis from the distal third of the radius.

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daily; Streptopencid (CID, Egypt) I/M daily and hot fomentation three times daily during this regimen of treatment.

After 10 days stall rest and treatment the horse was still markedly lame at the walk, and rested the leg when standing.

As this treatment proved unsuccessful, the animal was treated with DMSO (60 ml 70% solution) injected with 500 ml 20% glucose I.V. daily. In addition DMSO (90%) solution topically applied twice daily over the affected area.

Four days later, there was marked improvement in gait, swelling tenderness; and oedema disappeared. After 7 days of treatment, the horse returned to normal gait. The swelling, pain and oedema completely disappeared.

Radiographs after seven days of treatment revealed resolution of the inflammatory processes from the dorsal surface of the distal one third of the radius. In addition a radiolucent area of 2 mm width was noticed in the bone of the cortex just proximal to the distal metaphysis of the radius (Fig.2).

DISCUSSION

Osteomyelities of the long bones in the horse is an unusual condition, and reports in the literature are relatively rare. Whereas osteoperiostitis of the metatarsal or metacarpal is more common in the horse, and usually follows wounds and contusions (Adams, 1979).

According to Tulmo and Alitalo (1986) early radiographs of the infected bone revealed only a periosteal reaction. The present case showed typical sings of

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local infection such as tenderness, lameness, swelling and oedema. The radiographs revealed only active periosteal reaction of the distal one third of the radius.

When this case was admitted to the clinic, it was treated as osteoperiostitis of the radius with anti-inflammatory and anti-biotics. But this regimen was unsecusseful. Favourable clinic response was seen after the use of DMSO topically and injections. The said treatment have proved to be potent and effective as anti-inflammatory and anti-bacterial, and the horse was noticed to regain its normal condition during the first four days of treatment. In this respect (Koller, 1976) found that DMSO have excellent and useful effects in treatment of such condions in dogs.

Robert Knowels (1982); jacob (1982); and Koller(1976) emphasized that DMSO possesses significant anti-inflammatory properties, reduces oedema and swelling ; bacterostatic; and significantly improves circualtion in the treated area. This probably accounts for the rapid relief of pain and inflammation.

Concerning the external trauma to the cortical bone, Turner (1984) reported that osteomyelitis can be seen following trauma, and apparently accompanied by disruption in the continuity of the skin. Furthermore, Brown (1979) claimed that necrosis of the bone depends on the severity of the insult, and viability of the blood supply from the endosteal vessels. Vasculsr occlusion may lead to necrosis of the bone and soft tissues (Kahn and Pritzen, 1973).

The present case showed only periostitis as shown in the first radiographs. However, after clinical improvement the radiographs revealed radiolucent area of 2 mm width in the bone cortex just proximal to the distal metaphysis of the radius.

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It seemed that, the clinical use of DMSO in the treatment of osteoperiostitis and local bone infection (osteomyelitis) having potent effect in decreasing or even stoppage of bone necrosis, associated with controlling bone infection through increasing blood circulation of the endosteal blood vessels.

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