

## Tibial fracture in a foal



Fig. - Tibial fracture - Foal : Internal fixation with two Steinmann pins in cross fashion

### Discussion

The use of external fixation with Thomas splint is difficult to construct and to retain by newborn foals because of their temperament and spoilage of splint during urination (Watkins *et al.*, 1985; Turner 1982). In the present case, the fracture were treated by two Steinmann pins and the limb was supported by Thomas splint. Bone plate fixation needs invasive surgery and the risk of infection is high (Sardari and Sharifi, 2002). Use of cross pin fixation is very simple but it should be done very carefully to prevent damage to the articular surface (Turner, *loc. cit.*). In most instances, after fracture fixation using pins or bone plates in horses, dressing by a plaster cast is advised, but tibial casting by plaster cast is not very easy for the proximal fractures. Additional support with Thomas splint helped in preventing local infection as daily antiseptic dressing could easily be performed at the surgical site (Sardari and Sharifi, *loc. cit.*). Further fixation of the proximal physis with method presented here

did not need long incision and the risk of infection was very low.

### Summary

A case of Salter-Harris type II fracture at the proximal physis of the tibia in a 2 month-old female thoroughbred foal treated using two Steinmann pins in cross fashion and Thomas splint support with successful outcome is presented and discussed.

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## CROSS PIN FIXATION FOR PROXIMAL FRACTURE OF THE TIBIA IN A FOAL

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Physal fractures of tibia in foals generally occur as Salter-Harris type II but occasionally a Salter-Harris type I or type III injury may also be diagnosed (Young *et al.*, 1989). In this article, a case of proximal physis fracture (Salter-Harris type II) and its treatment by two Steinmann pin in cross fashion with successful outcome in a foal has been reported.

### Case history and Treatment

A two month old, female, thoroughbred foal was referred to the clinics of school of veterinary medicine, with a history of trauma in the left hind limb. On clinical examination mild cellulites was observed at the level of proximal tibia and fracture of the proximal tibia was suspected. Lateral and anteroposterior radiographs of the affected limb revealed Salter-Harris type II fracture at the proximal physis of the tibia. Internal fixation with two Steinmann pins in cross fashion and support the limb with Thomas splint was chosen for the repair of the fracture (Fig.). Prior to the surgical intervention the foal was administered flunixin meglumine (Razak company, Iran) 1.5 mg/kg IV, cefazolin (Daropakhsh company, Iran) 20 mg/kg IV and tetanus toxoid (Razi institute Iran) 3000 IU. General anesthesia was induced using diazepam 0.2

mg/kg, Xylazin hydrochloride 1 mg/kg and ketamin hydrochlorides 2.2mg/kg intravenously. Further, after endotracheal intubation anesthesia was maintained by halothane. The foal was placed in dorsal recumbency and the area prepared for aseptic surgery. After reduction of the fracture site, two small incision were made at the lateral and medial site of the proximal physis of the tibia and two Steinmann pin (one on either side) was inserted for stabilizing the fracture site. Incision was sutured by Nylon material no. 0 in a simple interrupted fashion. Post surgical radiography revealed acceptable reduction and fixation on the fracture. The wound was dressed routinely and a Thomas splint was applied to support the left hind limb. Post surgical antibiotic and analgesic therapy included cefazolin 20 mg/kg IV for 2 days and flunixin meglumine 1.5 mg/kg IV on daily for 4 days, respectively. The bandage was changed daily.

On day 83, postoperatively, the pins were removed under general anesthesia taking all the aseptic precautions. The skin wound was sutured aseptically and the limb was again immobilized with Thomas splint. After one week the splint was removed. Foal showed lameness in walking but after 10 days the foal became sound.