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Surgical management of transverse supracondylar fracture in a Labrador retriever

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Abstract

A seven-month-old male Labrador Retriever was presented with the history that it fell into a well and was not bearing weight on right hindlimb. Physical examination revealed pain on palpation, abnormal mobility, and crepitus of the right stifle joint. Radiological examination revealed transverse supracondylar fracture of femur. Surgical correction under general anaesthesia was resorted to. A craniolateral skin incision was made on the stifle joint to expose the joint cavity. The fractured fragments were reduced and stabilized using intramedullary pinning. Cross pinning was performed through the condyles using two Kriscner wires. Modified Robert Jones bandaging was done as an external coaptation technique. Routine postoperative therapy was provided.

Keywords: Supracondylar fracture, crepitus, intramedullary and cross pinning

Introduction

Fracture means a break in the continuity of hard tissue. Supracondylar fractures are the fractures which involves distal diaphysis. Supracondylar fracture means fracture separation through the distal femoral growth with caudal displacement of the distal femoral epiphysis. Supracondylar fractures of the femur are more common in puppies between 3 and 10 months of age. Open reduction is essential to prevent caudal rotation of the femoral condyles and malunion (Denny and Butterworth 2008) [1]. This paper describes the surgical management of supracondylar fracture by a combination of intramedullary pinning and cross pinning in a dog.

Case history

A seven-month-old male Labrador Retriever was presented with the history that it fell into a well and was not bearing weight on right hindlimb. Physical examination revealed pain on palpation, abnormal mobility, and crepitus of the right stifle joint. Radiological examination revealed fracture separated through the distal femoral growth plate and the case was diagnosed as transverse supracondylar fracture of femur (Fig 1). Surgical correction under general anaesthesia was resorted to. Animal was premedicated with glycopyrrolate 0.01mg/kg, acepromazine 0.04mg/kg and butorphanol 0.2mg/kg body weight, intramuscularly and anaesthesia was induced and maintained with midazolam 0.2mg/kg and ketamine 5mg/kg body weight, intravenously. Pre-operatively, ceftriaxone sodium was administered at the rate of 20 mg/kg body weight intravenously. Surgical site was aseptically prepared and fracture site was approached through the lateral para-patellar arthrotomy incision. Reduced the fracture by levering the condyles cranially and distally with a blunt Hohman retractor placed between fracture fragments. Fracture fragments were stabilized with Steinman pin inserted through articular cartilage (Fig 2), cranial to the origin of caudal cruciate ligament to the level of the fracture surface and driven the pin in a normograde fashion proximally into the femur with extended, adducted position of the limb. Followed by cross pinning with two krishner-wire to avoid rotational movement of fracture fragments (Fig 3). This cross pins inserted at a point cranial to the medial and lateral epicondyles driven them proximally through femoral metaphysis and through the opposite cortices. Then sutured the joint capsule with interrupted suture pattern by using absorbable polyglycolic acid. Muscles, subcutaneous and skin was closed in routine manner. Post-operative radiograph revealed good reduction and proper placement of the pins (Fig 4 & 5). Later the limb was externally coapted by modified Robert jones bandage. Post-operatively ceftriaxone sodium was administered at the rate of 20mg/kg body weight intravenously for 7 days, Melonex was administered at the rate of 0.2mg/kg intramuscular for three days to avoid postoperative pain and oral calcium to improve bone

healing. Advised the owner to restrict movement and physical rehabilitation until fracture healing.



Fig 1: Radiograph showing transverse supra condylar fracture of Femur

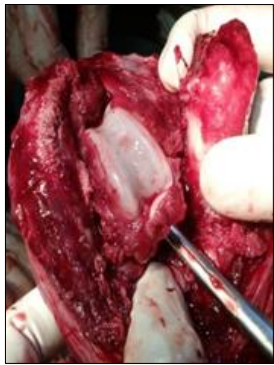


Fig 2: Photograph showing fractured fragment stabilized with Steinman pin



Fig 3: Photograph showing cross pinning with Krishcner wire



Fig 4: Post operative radiograph showing proper placement of Steinman pin



Fig 5: Post operative radiograph showing proper placement of Steinman & Cross pin

Results and Discussion

The dog started partial weight bearing on affected limb by third postoperative day. It started normal weight bearing by tenth postoperative day with normal ambulation on the affected limb. On follow up after 45days post operatively, the animal started walking normally which finally led to uneventful recovery. Supracondylar fractures are usually transverse or short oblique fractures. Stabilization of supracondylar fractures depends on the fracture configuration and the patient-fracture assessment. The surgical techniques available to treat supracondylar fractures include intramedullary pinning (IMP), plating, plating with IMP, IMP with external skeletal fixator and IMP with cross pinning. When driven the intramedullary pin the limb was extended and adducted in position to avoid damage to the sciatic nerve. Physical rehabilitation encourages the controlled limb use and optimal limb function after fracture healing (Fossum 2013) [2]. Degenerative joint disease and abnormal bone growth secondary to growth plate injuries are the complications with one intramedullary pin treating for these fractures (Stigen 1999) [3].

Conclusion

Intramedullary and cross pinning provides an ideal internal fixation technique for the management of transverse supracondylar fracture in dogs.

References

1. Denny H, Butterworth S. A guide to canine and feline orthopaedic surgery. John Wiley and Sons 2008.
2. Fossum TW. Small animal surgery textbook. Elsevier Health Sciences 2013.
3. Stigen, O. Supracondylar femoral fractures in 159 dogs and cats treated using a normograde intramedullary pinning technique. Journal of small animal practice 1999;40(11):519-523.