

# LATERAL PATELLAR LUXATION AND ITS SURGICAL TREATMENT IN DOG

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The patella is a small ovoid bone located at the front of the knee (stifle) joint. It is located within the tendon of the powerful quadriceps muscle and slides within a groove on the lower end of the femur, known as the femoral trochlea. Patella luxation occurs when the patella slips out of this groove. Lateral luxation of patella in dogs is usually congenital (Rahman and Ahasan, 2007) and it mostly occurs as a result of anatomic abnormalities involving the entire hind limb (Harasen, 2006). Luxation with shallow trochlea or/and deviated tibial tuberosity requires bone reconstruction to realign the displaced quadriceps and to restrain the patella within the trochlear sulcus (Hulse, 1995). The present paper discusses about surgical management of unilateral

patellar luxation in dog by employing modified trochlear wedge recession technique (Slocum and Slocum, 1993).

## Case History and Observations

A two year old Male Labrador dog was presented to the Veterinary College Hospital, Bangalore with the history of right hind limb lameness and improper weight bearing. Clinical examination revealed frequent lateral luxation of right patella during flexion and limb with the stifle joint flexed outwardly. On physical examination of the affected limb, no pain was detected. Based on the physical and clinical examination it was confirmed as a case of Grade IV lateral patellar luxation (Fig. 1).



Fig.1: Photograph showing lateral patellar luxation

## Treatment and Discussion

Dog was prepared for aseptic surgery and premedicated with Atropine sulphate @ 0.04 mg/kg body weight subcutaneously and Triflupromazine hydrochloride @ 1 mg/kg body weight intravenously. After 10 minutes, animal was anesthetized with 2.5%

Thiopentone sodium at dose rate of 25 mg/kg body weight given to effect. The dog was placed on left lateral recumbency, elevating the affected limb. The stifle joint was approached through cranio-lateral incision. The trochlea was exposed after excising and deviating the fascia, retinaculum and joint

capsule on lateral side. A wedge shaped articular cartilage along with underlined piece of bone was incised (Fig. 2). The sulcus was further deepened using mini bone nibbler and the dismantled pieces along with articular cartilage was put back at its original site by suturing the cartilage with vicryl No. 1-0 in



**Fig. 2: Photograph showing wedge shaped articular cartilage along with underlined piece of bone incised**

The stifle joint was flushed with normal saline, checked for its normal function and patellar stability. The arthrotomy incision was closed with simple interrupted sutures using no.1 polyglactin-910. The subcutaneous fascia and skin were sutured in routine manner. Postoperatively the stifle joint was immobilized with adhesive crape bandage and antibiotics, non-steroidal anti-inflammatory drugs and serratioptidase were administered orally for seven days and skin sutures were removed after 10 days postoperatively. The dog had uneventful recovery. Postoperatively short wave diathermy and light exercise were performed, which was found effective in normalizing soft tissue swelling and lameness.

In the present study, dog was affected with lateral patellar luxation. Medial patellar luxations were successfully treated with wedge recession trochleoplasty along with tibial tuberosity transposition in several clinical cases in dogs (Tyagi *et al.*, 2003). Various other procedures include medial desmotomy, lateral imbrications, anti-rotational suture and releases of medial

interrupted manner (Slocum and Devine, 1985). The anterior tibial tuberosity was osteotomised and placed slightly medially from its existing position on the already prepared bed larger than the lateral notch on the craniomedial aspect and fixed by using K-wire (Fig. 3).



**Fig. 3: Photograph showing fixing of anterior tibial tuberosity with K-wire**

musculature have been successfully used in immature patients to modify abnormal forces on growing bones to supplement other procedures (Roush, 1993). Hayes *et al.* (loc.cit) reported its occurrence more in large breeds. Roush (1993) reported a guarded prognosis for surgical correction of grade IV patellar luxation in young dogs, but modified trochlear wedge recession technique employed in the present study was found to be effective in correcting grade IV luxation.

### Summary

A clinical study on lateral patellar luxation in dog employing modified trochlear wedge recession technique is reported.

### References

- Harasen, G. (2006). Patellar luxation: Pathogenesis and surgical correction. *Can. Vet. J.*, 47: 1037-1039.
- Hayes, A.G., Boudrieau, R.J. and Hungerford, L.L. (1994). Frequency and distribution of medial and lateral patellar luxation in dogs: 124 cases (1982-1992). *J. Am. Vet. Med. Assoc.*, 205: 716-720.

- Hulse, D.A. (1995). The stifle joint. In: Olmstead ML ed. Small Animal Orthopedics St Louis: Mosby, Pp. 395–404.
- Rahman, M.M. and Ahasan, A.S.M.L. (2007). Congenital lateral patellar luxation in a shorail dog: a case report. *Bangl. J. Vet. Med.*, **5** (1 & 2): 121-124.
- Roush, J.K. (1993). Canine patellar luxation. *Vet. Clin. North Am. Small Anim. Pract.*, **23**: 855–868.
- Slocum, B. and Devine, T. (1985). Trochlear Recession for Correction of Luxating Patella in the Dog. *J. Am. Vet. Med. Assoc.*, **186**: 365-369.
- Slocum, B. and Slocum, T.D. (1993). Trochlear wedge recession for medial patellar luxation. An update. *Vet. Clin. North Am. Small Anim. Pract.*, **23**(4): 869-875.
- Tyagi, S.P., Kumar, A., Sharma, S.K., Varshney, A.C. and Singh, M. (2003). Translocation of tibial tuberosity along with trochlear recession and lateral capsular imbrications for correction of medial patellar luxation in dog. *Indian J. Vet. Surg.*, **24**: 54-55.