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Short Communication

POST OPERATIVE MANAGEMENT AND OBSERVATIONS AFTER FEMORAL HEAD OSTECTOMY (EXCISION ARTHROPLASTY) IN EXPERIMENTAL DOGS*

A Veterinarian in small animal practice will have to deal with large number of dogs and cats being presented suffering from abnormal conditions of the hip joint. Hip dislocations because of traumatic origin have been frequently encountered orthopaedic problems with reported frequencies of 39 to 90 per cent (Leonard, 1971 and Fry, 1974). Damage to the soft tissue varies considerably. However, a portion of joint capsule and round ligament is torn in all luxations. In little more severe cases one or more gluteal muscles may damage and rarely portion of dorsal rim of the acetabulum or portion of the femoral head may be fractured. Most of these cases can be treated by closed reduction. Little more chronic luxations may need open reduction, and some of these may need supplementary fixation to maintain proper reduction. In certain cases hip luxation is irrepairable because of severe abrasion to the articular cartilage, fracture of acetabulum and femoral head and so on. Such patients are generally treated with excision arthroplasty.

Twelve apparently healthy Mongrel dogs of either sex weighing 10-15 kg were selected and kept under close observation for a period of two weeks to rule out any pre-existing ailments. Rectal body temperature, pulse and respiration rate were recorded daily. Faecal samples were examined and dogs infested with parasites were medicated. Observations were made for normal gait, stride and range of motion of hip joint in all the dogs. Ventrodorsal radiographs of pelvis were taken to rule out any lesions in the hip joints.

Excision arthroplasty was carried out through cranio-lateral approach to hip joint under general anaesthesia with all aseptic precautions. Standard set of instruments were used to complete surgical maneouver.

Immediately after recovery from the anaesthesia the dog was shifted to the kennel. Following day the dog was encouraged to walk and bear weight on

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operated limb. Passive flexion and extension were practiced every day but running and jumping were restricted. No external splint was applied to the operated leg. Amoxycillin and cloxacillin* combination 10 mg/kg body weight was given intramuscularly twice daily for 7 days. The surgical wound was dressed with Nitrofurazone** soluble ointment and bandaged regularly. The cutaneous sutures were removed on 10th post operative day.

Blood samples were collected regularly for haematological and biochemical examinations. Post operative clinical observations and radiographic evaluations were also made. Experimental animals were sacrificed in batches of 4 each after 4th, 8th and 12th post operative weeks. Details of post mortem examination carried out in the region of operated hipjoint and gross pathological changes were recorded.

Moderate amount of inflammatory swelling was present at the site of operation on second post operative day. This could be due to inflammatory response to surgical trauma caused during operation. The swelling was gradually subsided in all the animals by 5th post operative day as inflammatory condition reduced. The cutaneous wound was healed completely by 9th post operative day in all the animals. This indicated aseptic surgery and proper care and management post operatively. The cutaneous sutures were removed on 10th post operative day. There was sub normal temperature and sharp raise in pulse and respiratory rate following the day of operation. Sub normal temperature might be due to depressant effect of anaesthetic and tranquilizer (Benjamin, 1979) and raise in pulse and respiratory rate might be due to excessive heat loss and lower body temperature (Coles, 1974). Plasma alkaline phosphatase level remained high throughout the post operative period of 9 days. This could be attributed to the muscle and skin trauma and healing of bone (Harpal Singh *et al.*, 1976). Haematological parameters did not reveal significant changes.

Seven animals weighing 12 kgs and less started bearing weight on operated leg on the 1st post operative day. Animals weighing more than 12 kgs took a little longer time. This might be due to difference in body

* *Moxel Astral Pharmaceutical Industries, Vododara*

** *Furacin Smithkline Beecham Pharmaceuticals, Bangalore*

weight of animals. The same opinion was expressed by Levine *et al.* (1970), Bonneau and Breton (1981), Nunamaker (1985) and Lippincott (1992). The post operative pain persisted between day one to twelve days. Post operative lameness persisted between 2 to 4 weeks after surgery. This could be due to surgical trauma and lack of pelvic support as reported by Lee and Fry (1969), Bonneau and Breton (1981) and Piek *et al.* (1996) were of the opinion that the patients undergone excision arthroplasty would exhibit slight, intermittent or occasional lameness. Range of motion of hip in all experimental animals decreased to some extent especially during abduction and progression. This might be due to scar tissue formation between proximal extremity of femur and acetabulum. Lee and Fry (1969), Nunamaker (1985) and Roush (1990) observed moderate atrophy of gluteal and quadriceps groups of muscles. Limb shortening was observed which was inocuous.

Summary

Post-operative management of dogs after femoral head ostectomy was studied in 12 experimental dogs. Healing of cutaneous wound without any complications indicated aseptic surgery and good post operative measure adapted there after. Weight bearing was observed immediately after surgery, which was very advantageous. Shortening of the limb and atrophy of musculature were observed post operatively. However, they did not have clinical significance for the functioning of the limb. Haematological parameters did not reveal significant changes during observation period.

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