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Toggle pin technique with mini straight plate for treatment of Coxofemoral luxation in a female pomeranian dog

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Introduction: Coxofemoral luxation is most common in dogs and cats, up to 90%. Vehicular trauma is the cause of up to 85% of coxofemoral luxations. Most common type of coxofemoral luxation is craniodorsal, in 78% of dogs and 73% cats, and rarely caudodorsal and ventral and medial. The basic principles of treatment are to restore joint stability, to reduce the formation of osteoarthritis and to restrict of animal movement. Closed reduction can be ideally made in 48-72 hours after trauma and in uncomplicated joint luxation with support of as Ehmer sling stabilization, ischio-ilial pinning or dynamic transarticular pinning. Open reductions are used for complications such as hip dysplasia existence prior to trauma, femoral and/or acetabular avulsion fractures, intra articular fractures, arthrosis, chronic luxation, closed reduction failure and extreme instability after reduction. Techniques described for open reduction include capsulorrhaphy and extracapsular suture stabilization, modified extracapsular suture stabilization, trochanteric transposition, De-Vita pinning, triple pelvic osteotomy, transposition of the sacrotuberous ligament, transacetabular pinning or transarticular pinning, toggle pin fixation, fascia lata loop stabilization, anchor sutures, total hip replacement, and femoral head and neck excision.

Results and Discussion: Postoperatively, infection signs, pain, abnormal implant position, the hip joint laxity or relaxation were not detected in clinical and radiological examinations After one-week dog can walk without any sign of lameness and pain. Information regarding long-term survival and postoperative complications were obtained from the owners by telephone 6 months or more after surgery and they didn't occur. Toggle rod stabilization allows early use of the limb after surgery and may be beneficial such as chronic luxations, multiple limb injuries, mild hip dysplasia. Taggle Rod stabilization success rate is 89% and appropriate for dog below 10 kg and owner satisfaction is 80%, beside if frailer accurse the patient have chance of coxofemoral prosthesis. Toggle pin can be disrupted by suture breaking between femoral head and acetabulum and failed primarily by breakage of the suture at the rod eyelet. It has been reported relaxation rates 11% and 23% also osteoarthritis in regards to knotting in tight manner. In this case, the suture materials were sufficiently knotted without causing osteoarthritis and relaxation. Although investigation of long-term results and more cases would be further practical value and essential, this creative method seems to be practically easy and the materials of innovate modified toggle pin are common, does not react, with high durability so could be recommended for the treatment of coxofemoral luxations in small animals.

Biography

Alireza Bashiri was born in Mashhad, 1988. He got diploma in 2006 from a grammar high school in Sirjan and has studied veterinary medicine (DVM) in Shahid Bahonar University of Kerman. Thereafter he was accepted for the residency course (DVSc) at the University of Tehran which holds the top rank in Iran. At the moment, he is a chief resident of veterinary surgery at the University of Tehran studying in the eighth semester and as a resident have finished all courses and successfully passed the board exam in the third year. He has published several articles for my academic achievement and spent an equine surgery traineeship in Italy as a valuable practical experience during my undergraduate. Although he does research in Veterinary Surgery and Anesthesiology, Equine Surgery and Orthopedics, currently in most recent publication collaborate with Department of Basic Science.

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