LATERAL RETINACULAR IMBRICATION TECHNIQUE FOR CRANIAL CRUCIATE LIGAMENT RUPTURED DOGS

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CERTIFICATE

This is to certify that the thesis entitled **"LATERAL RETINACULAR IMBRICATION TECHNIQUE FOR CRANIAL CRUCIATE LIGAMENT RUPTURED DOGS"** submitted in partial fulfilment of the requirements for the degree of **MASTER OF VETERINARY SCIENCE IN VETERINARY SURGERY AND RADIOLOGY** to the **Tamil Nadu Veterinary and Animal Sciences University, Chennai- 51** is a record of bonafide research work carried out by **MANOJ KUMAR AHIRWAR** under my guidance and that no part of this thesis has been submitted for the award of any other degree, diploma, fellowship or other similar titles or prizes and that the work has not been published in part or full in any scientific or popular journal or magazine.

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ABSTRACT

Title	:	LATERAL RETINACULAR IMBRICATION TECHNIQUE FOR CRANIAL CRUCIATE LIGAMENT RUPTURED DOGS
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The study was carried out in 12 clinical cases of cranial cruciate ligament ruptured dogs presented to the Small Animal Orthopaedic unit of Madras Veterinary College. The dogs were divided in two groups of six each, surgical correction of ruptured cranial cruciate ligament was performed by lateral retinacular imbrication technique using polyester suture materials (Group I) and polyamide suture material (Group II).

The parameters studied were general orthopedic examination of patients stifle joint lameness evaluation while walking, tibial compression test and cranial drawer sign. Dogs exhibited signs of unilateral or bilateral weight bearing, or non weight bearing lameness and pain on the affected pelvic limb, swellings was felt on either side of joint. Clinical evaluation of the patients included hematological examination and serum biochemistry analysis. Radiological, goniometry, ultrasonographic evaluation of affected stifle joint, arthroscopic examination of joint just prior to surgery and synovial fluid examination were performed.

the postoperative complications, surgical outcome and efficacy of suture material were also observed.

Five dogs with grade IV lameness, six dogs with Grade III lameness and one dog presented with bilateral Grade IV lameness. Various haematological and serum biochemistry parameters were normal in dogs of both group and could not showed any statistically significant difference either within the groups or between the groups.

Radiographic findings of the affected stifle joint showed joint effusion, fat pad sign, decreased joint space, thickened straight patellar ligament, degenerative joint disease and osteophytes on the femoral condyle and tibial crest. Ultrasonography findings revealed hypoechoic areas with visualization of cranial infrapatellar pouch and presence of fat pad with anechoic to hypoechoic joint effusion. Hyperechoic area was visualized as osteophytes and discontinuity in the hypoechoic band was visualized, suggestive of ruptured cranial cruciate ligament. On arthroscopic examination of the stifle joint revealed ruptured cranial cruciate ligament, hyperemia and hyperplasia of synovial membrane, joint cartilage degeneration, meniscal tear and also osteophytes in the femoral condyle and tibial crest .

Out of 12 dogs included in the study, which were subjected to either of the two treatment regimens showed marked improvement following surgery. All the dogs except one in group I and one in group II recovered completely from lameness by 28th postoperative day. It was concluded that surgical outcome after the stabilization of ruptured cranial cruciate ligament with monofilament nylon suture material was better than the multifilament polyester suture for extracapsular prosthesis of stifle joint. In monofilament nylon suture loosening of the suture knot and breakage of suture was not noticed while in polyester suture material breakage of imbrication suture and fistulous tract was noticed. In dogs with surgical stabilization of ruptured cranial cruciate ligament with monofilament nylon had early return of function of stifle and less complications than with polyester suture.