

RESTROSPECTIVE STUDY OF CLINICAL CASES OF CRANIAL CRUCIATE LIGAMENT RUPTURE WITH THE MODIFIED MAQUET PROCEDURE (MMP)

INTRODUCTION

Cranial cruciate ligament (CCL) disease is the most common cause of pelvic limb lameness and stifle joint osteoarthritis in dogs. CCL disease may be treated either medically or surgically. Surgical treatment is frequently recommended for more rapid stifle joint stabilization, meniscal treatment, and an earlier return to clinical function. Numerous surgical treatments have been described to stabilize the stifle joint: intraarticular techniques, extraarticular techniques and ostectomy-based techniques. The Modified Maquet Procedure (MMP) is an ostectomy-based technique which is thought to impart functional stability to the stifle during motion by reducing the femoro-tibial shear force.

OBJECTIVES

In this study we would like to assess the clinical efficacy of the Modified Maquet Procedure (MMP) to treat the lameness caused by failure of the CCL in dogs.

MATERIALS AND METHODS

To do the assess of the clinical efficacy of the MMP technique 17 cases referred to the “*Hospital Clínic Veterinari*” of the Autonomous University of Barcelona for CCL rupture have been used.

Table 1. In this table is detailed the mean and the standard deviation of the age and weight.

AGE (years)	4.82±2.03 yr (mean ± sd)
WEIGHT (kg)	33.1±5.26 kg (mean ± sd)

During the surgical procedure, different sizes of titanium foam wedges, Kirschner wires, different diameters of orthopaedic wires, staples and Dynamic Tension Plates have been used. The MMP surgical technique have been used in all the cases.

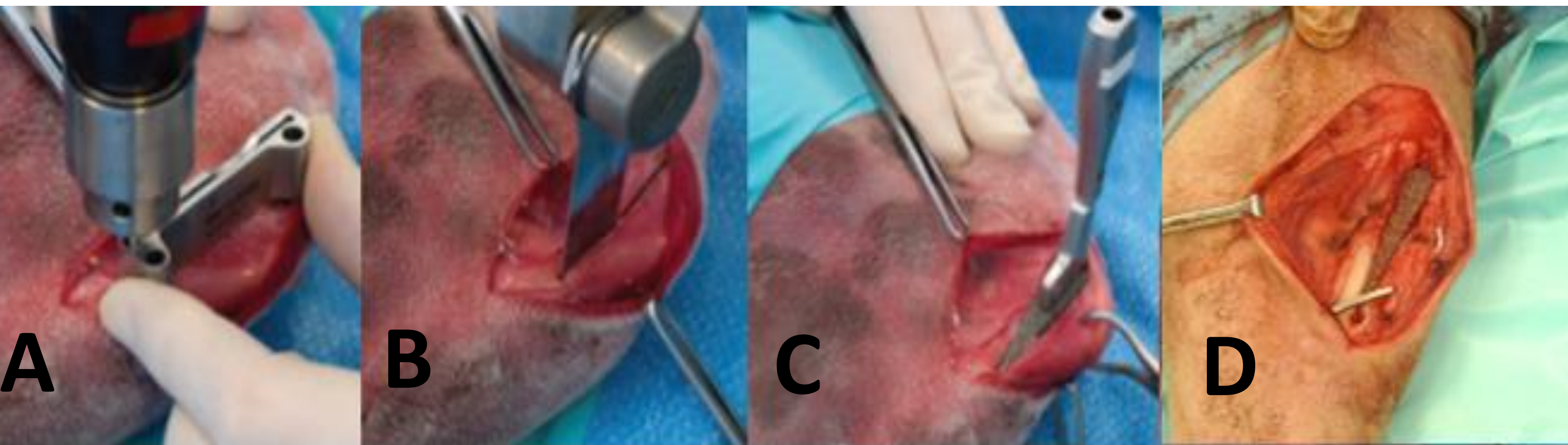


Figure 1. Surgical’s procedure images: (A) fixation of the saws guide; (B) end of the ostectomy with the oscillating saw; (C) insertion of the titanium foam wedge; (D) implanted wedge and stabilization with staple (Ness 2011).

RESULTS

Table 2. In this table is detailed the results of the present study.

COMPLETE FUNTIONAL RECOVERY	
Total recovery	15/17 (88.2%)
1/5 Lameness	2/17 (11.8%)
CONSOLIDATION PROCESS	
1 month	15/17 (88.2%)
1.5 months	2/17 (11.8%)
SUPPORT OF THE AFFECTED LIMB	
7 days	9/17 (52.9%)
15 days	6/17 (35.3%)
≥ 21 days	2/17 (11.8%)
COMPLICATION RATE	
No complications	10/17 (58.8%)
Minor complications	4/17 (23.5%)
Major complications	3/17 (17.6%)

Related to surgical technique

DISCUSSION

- The 88.2% of the cases have achieved the complete functional recovery of the affected limb. The two cases of residual lameness belong to the same animal which has other concomitant orthopedic pathologies (hip dysplasia). Thereby the lameness could be explained by the hip dysplasia. The rate of complete functional recovery is similar to the rates reported in previous studies of MMP.
- Consolidation process has been good in all the cases. Only two cases showed late consolidation (6 weeks), which may be due to being infected with Leishmania. This parasite slows down the metabolism and can cause osteolytic lesions, that could justify the late consolidation.
- Only 3 cases have been associated with major complications, and only one of these needed surgical treatment. The 23.5% have been associated to minor complications (2 dermatitis and 2 exudative wounds), but these complications are related to the bandage, not to the surgical technique. Therefore, the 82.6% of the cases did not present any complication related to the surgical technique. Larger number of cases are needed to infer the incidence of complications associated with MMP.

CONCLUSION

The results of this study confirm the clinical efficacy of the MMP technique for the treatment of CCL rupture in dogs.

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