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# TREATMENT OF RUPTURE OF CRANIAL CRUCIATE LIGAMENT WITH CAPACITIVE AND RESISTIVE RADIOFREQUENCY AT 448 kHz

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## BACKGROUND

English bulldog, male, neutered, 22 kg and five years of age, operated on six months before luxation of patella on right hind limb (RHL) (at another veterinary center). At the time of the visit, displays acute lameness of same limb.

Orthopedic examination reveals luxation of the patella and positive result in drawer test, with no significant findings in neurological examination.

Knee x-rays show joint inflammation.

Results of functional assessment:

- Walking test: displays RHL lameness of ⅗ degrees. The center of gravity is cranially displaced to the left. Lateral deviation of the spine and active range of movement (ROM) limited in RHL. RHL in abduction when walking. .
- Specific muscle palpation: increased tone of left paravertebral musculature, especially in lumbar zone. Anti-gravity musculature of both front limbs (FL) are contracted, with trigger points on triceps and brachiocephalic muscles.

  The splenius muscle has very increased tone.
- Goniometry: RHL extension 150°, flexion 50°.
- Perimetry: RHL 30 cm; LHL 32 cm.
- Degree of pain: VAS 6/10.

The resulting diagnosis is rupture of the cranial cruciate ligament.

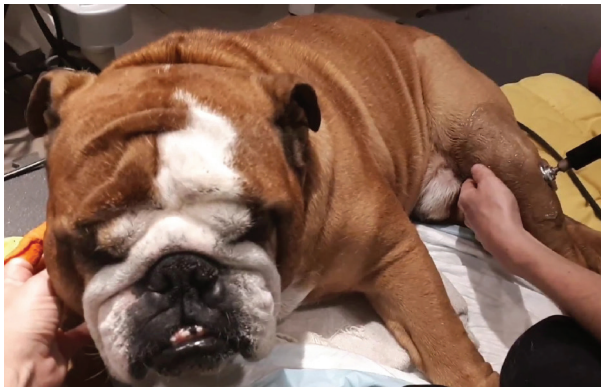

**Image 1.** Patient during rehabilitation session

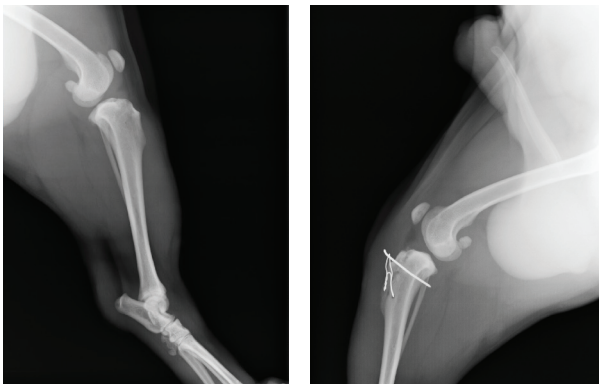

**Image 2.** X-ray image of RHL

## OBJECTIVES

The treatment aims to reduce joint effusion and pain in the acute stage, and to reduce muscle tone and improve joint ROM in the sub-acute and functional phases.

## TREATMENT

INDIBA Animal Health (INDIBA, S.A., Barcelona, Spain) Monopolar Radiofrequency (RF) device, working at 448 kHz and applied with capacitive (CAP) and resistive (RES) electrodes that close the circuit with a return plate.

**Treatment protocol:**

Initially, during the acute phase, three therapy sessions with RF are scheduled, moving to two weekly sessions during the sub-acute phase and one weekly session in the final/functional phase.

The treatment is applied to the quadriceps and sartorius muscles and to the knee, with passive kinesiotherapy (PK) performed during the final phase of the treatment.

## RESULTS

The evolution was favorable: after six treatment sessions the joint effusion disappeared, the degree of pain decreased and the active joint ROM of the knee improved (45°), less forward deviation of the center of gravity and less deviation of the spine were observed.

The patient appeared comfortable and calm during treatment, without any adverse side effect observed.

## CONCLUSION

The results of this case suggest that Capacitive/Resistive Monopolar Radiofrequency at 448 kHz could represent a tool with therapeutic value in cases of rupture of the cranial cruciate ligament.

Studies with larger groups are needed to support these preliminary data.

## REFERENCES


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