

## Treatment of Coxofemoral Luxation Using Toggling Technique in Dog

A. A. N. G. D. Wisesa<sup>1\*</sup>, I. W. Y. Semarariana<sup>1</sup>, P. S. Dwipartha<sup>1</sup>, P. T. E Sucitrayani<sup>1</sup>, M. P. A. Yunikawati<sup>1</sup>, A. A. N. O. Pujawan<sup>1</sup>, I. N. Suartha<sup>2</sup>

<sup>1</sup>Kedonganan Veterinary

<sup>2</sup>Faculty of Veterinary Medicine, Udayana University

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### INTRODUCTION

Coxofemoral luxation occur because the femoral head and the acetabulum are separated (Mark, 2011). In small animals, coxofemoral luxation with craniodorsal position is the most common type of luxation that occur in dog (Ali, 2014). Arun *et al.* (2012), explain that coxofemoral luxation occurs due to neoplasia or serious trauma.

There are several methods to solve this coxofemoral luxation such as non-surgical reduction, surgical reduction, femoral head and neck ostectomy (FHO), and total hip replacement. In this study, it was evaluated using surgical reduction with toggling technique in treatment of craniodorsal coxofemoral luxation in dog which appears to be technically easy, quick and has a good result.

### CASE REPORT:

#### Signalmen

Local dog named Mido, 1,5 years old, 15 kg of bodyweight, the color is black and white, has no vaccination status and not spay yet.

#### Anamneses

Come to clinic with limping of the right leg but still be able to walk, Sometime the leg was lifted. The owner said that the dog got motorcycle accident last week.

#### Clinical Signs

Physical examination was performed to saw the general condition of the patient. The patient was hydrated, mucosal membrane was light red, CRT <2s, Heart rate and respiration rate was normal, the temperature was 38,5 °C. The right back leg when palpated was showed no pain or no crepitation at all, but the right back leg seems to be limped. There was a bruises in coxofemoral area.

#### Result of Laboratory Assay

X-ray test was performed to saw the bone profile of back leg. From x-ray result, it showed the separation between femoral head and

acetabulum. The femoral head bone went to craniodorsal position (Figure 1). Complete blood count was performed to saw the physiology profile of the patient.

#### Differential Diagnose

Differential diagnose of this case is Hip Dysplasia, acetabulum fracture, fracture caput os femur.

#### Diagnoses

Based on these anamneses, physical exam and x-ray result, the diagnoses of this case is coxofemoral luxation with craniodorsal position.

#### Prognoses

Based on anamneses, physical exam and x-ray result, the prognoses of this case is fausta.

#### Therapy

The treatment of coxofemoral luxation in this study was done by using *surgical reduction* with toggling technique. Before surgery, laboratory test such as complete blood count was necessary due to make sure the physiology condition of patient in the normal shape. The anesthetic agent that are used was medetomidine HCl. The dosage was 50 µg/kg of bodyweight via intramuscular. Combination with ketamine HCl 4 mg/kg of bodyweight via intramuscular. Isoflurance were used for anesthetic maintenance.

The surgery was done from cranio-lateral approached. The tools that had to be prepared were plate toggle 2 pieces, non-absorbable straps with 1 mm diameter, and materials and tools for orthopedics surgery.

The Incision started from the skin, subcutaneous, musculus until caput os femur and acetabulum founded. Use the manual drill to make a hole on acetabulum. After acetabulum was holed, then make a hole also in caput femur using drill machine. After acetabulum and caput femur was holed, then toggle which made from aluminium plate was inserted to the hole of acetabulum that had been made before along with

the non absorbable straps that already attached to the toggle plate. After that, the straps was inserted also to the hole in the caput femur that had been made before. Then, the straps was attached to the second toggle plate in the outside area of the caput femur. Make a quick pulls until the caput femur gets into the acetabulum perfectly. Do binding on second toggle with the straps. Then the musculus was sewn with an absorbable thread with a simple stitch technique. The subcutaneous area was sewn with absorbable thread with a simple continuous stitch technique and the skin with non-absorbed thread. The x-ray result after surgery will be seen on the picture below (Figure 2).

## DISCUSSION

Post-surgery was the important stage to make sure there was no complications and to make sure the healing of the wound. Antibiotic such as clindamycin 300 mg was given to prevent the infection from bacteria. The dosage of this antibiotic was 5,5 mg/kg of bodyweight p.o. q12h daily for 7 days. Non steroid anti-inflammatory such as carprofen 25 mg was also given. The dosage of this NSAID was 4,4mg/kg of bodyweight p.o. q24h daily for 7 days. In the first day, the patient already showed a good movement of the leg without limping. Stitches are opened a week after surgery. One to seven days postoperatively, dogs should be minimized movement. For wound management were checked daily and cleaned every two days. A non-absorbable straps inside the toggle plate was take off one month later.

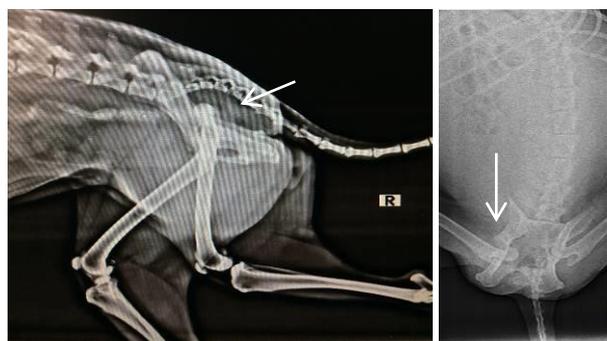


Figure 1.



Figure 2.

## CONCLUSION

Toggling technique was appears to be a good treatment for coxofemoral luxation in dog with a great result.

## ACKNOWLEDGEMENTS

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## REFERENCES

- [1] Ali Belge, Zeynep Bozkan, Murat Sarierler, Rahime Yaygingul. 2014. The Treatment of Coxofemoral Luxation by Modified Synthetic Capsule Technique in Dogs: 6 Cases. Kafkas Universitesi Veteriner Fakultesi Dergisi. 20(3):337-343. Turkey
- [2] Arun P.A., Shafiuzama M., Ayyappan S., Sureshkumar., Jayaprakash R. 2012. Incidence of Coxofemoral Joint Affections in Dogs- A Clinical Study of 575 Patients. Tamil Madu Veterinary and Animal Sciences University. Vol.13(II): 281-283. Tamil Madu