PCSO-524® for Treatment of Immune-Mediated Polyarthritis in Dogs

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Abstract

An 8-year old Chihuahua dog was admitted for surgical treatment of patella luxation at Small Animal Hospital of Chulalongkorn University, Thailand.

At 2 weeks prior to the hospital visit, the dog showed signs of fever, anorexia, lethargy, and lameness of the left leg. Non-steroidal anti-inflammatory drug (NSAIDs) was prescribed at that time but the dog had no response to the treatment.

Physical examination found that the dog could bear body weight on 4 legs, but with walking lameness.

Both of the hind limbs showed plantigrade stance and joint effusion was found at carpal, tarsal and stifle joint of both sides. Cervical and lumbar stiff was present without signs of neurological disorders or injury of cervical and thoracic vertebrae.

Medial patella luxation was found on both sides from radiographic examination.

Primary non-erosive immune mediated polyarthritis was diagnosed based on physical and radiographic examination, blood test and negative bacterial growth from synovial fluid culture.

Keywords: Cyclosporin, dog, Immune Mediated Polyarthritis, PCSO-524

Immune-Mediated Polyarthritis (IMPA) is caused by accumulation of immune complex in the articular membrane which results in inflammation of the joint (Stull et al., 2008).

Animals with IMPA primarily show signs of lameness, multiple joint effusion and joint pain. IMPA treatment aims to prevent the formation of immune complex by using steroid or immunosuppressant drugs such as prednisolone, cyclosporin and azathioprine and to control pain and inflammation by using anti-inflammatory drugs.

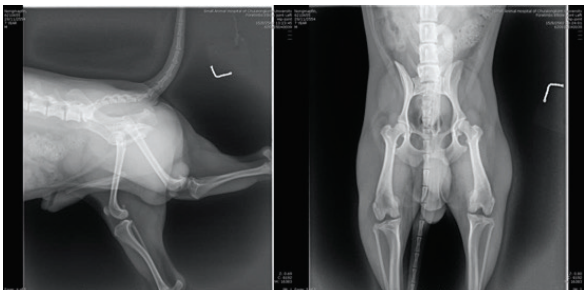

Figure 1. Radiographic images from ventrodorsal view showing patella luxation towards medial trochlear groove (medial patella luxation) on both sides

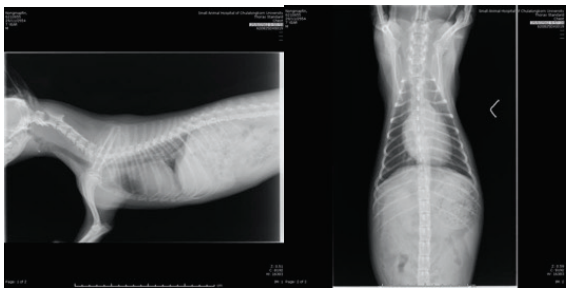

Figure 2. Radiographic images from lateral ventrodorsal view found no disorder of cervical and thoracic vertebrae

The dog received **prednisolone** 0.6 mg/kg bid, **gabapentin** 10 mg/kg sid, **samylin® liver supplement** 1 tablet sid, and **amoxicillin-clavulanic acid** 20 mg/kg sid in the first week of the treatment. Then prednisolone was stopped due to elevation of liver enzymes; AST, ALT, and ALK.

The following 1-month treatment course included **cyclosporine** 6 mg/kg bid, **gabapentin** 10 mg/kg bid, **samylin®** 1 tablet sid, and **PCSO-524®** 1 capsule bid.

> Since the second week in this treatment course, the dog gradually showed improvement of lameness and pain score, however, tarsal, carpal and stifle joint effusion was still present.

The following treatment included **gabapentin** 10 mg/kg bid, **cyclosporine** that was reduced by 25-50% every 2-4 weeks and **PCSO-524®** 1 capsule per day. Cyclosporin and gabapentin was then discontinued in the third and fourth month of the treatment, respectively.

> Reduced joint effusion was observed in the second month of the treatment and completely disappeared in the fourth month.

Only PCSO-524® was continued for another 4 months without recurrence of lameness or joint effusion. No adverse effects of long-term use of PCSO-524® were detected.

PCSO-524® is extracted from New Zealand Green Lipped Mussel that is an enriched source of **polyunsaturated omega-3 fatty acids (n-3 PUFAs)**.

It is known for anti-inflammatory effects as a result of ability to block lipoxygenase (LOX) and cyclooxygenase (COX) pathway by decreasing leukotriene and prostaglandin production (Zawadzki et al. 2013).

References

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