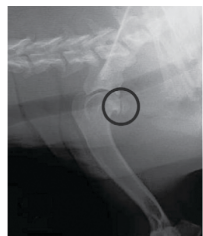
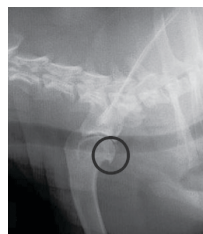


ABSTRACT



BEFORE



AFTER

Because of our success in a previous study in canine OA management (published in the Thai veterinary journal) (as shown in this x rays film above - before and after) using PCSO524, we had the confidence to replace NSAIDs with PCSO-524 (see reference 7).

KEYWORDS:
 Dogs, PCSO-524, Stifle surgery

The clinical outcomes of the use of PCSO-524 in 28 dogs that had undergone surgery on the stifle (which included correction of the patellar luxation and correction of cranial cruciate ligament rupture) were studied at the Small Animal Teaching Hospital, at Chulalongkorn University, Bangkok, Thailand. Twenty-eight dogs that undergone both stifle surgery were included in our study. All test subjects had been given pre-emptive analgesia (morphine sulfate), NSAIDs and glucosamine had been administered before the surgery.

Two postoperative treatments were:

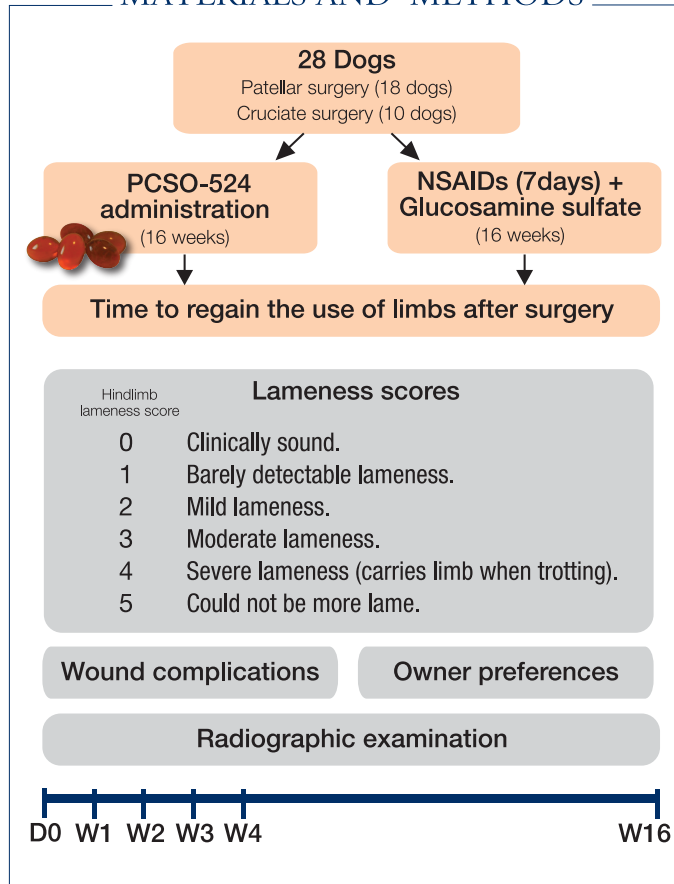
1. NSAIDs treatment for one week in combination with glucosamine sulfate;
2. only PCSO-524 treatments.

All parameters, which included the time taken for the dogs to regain the use of their limbs, lameness scores, wound complications and owner preferences were recorded and evaluated and compared with those in the previous surgery.

Radiographic examinations were made before and after 16 weeks of treatment. All adverse effects after the administration of PCSO-524 and pain relief medications were recorded.

The results revealed that a large percentage of dogs experienced improvements in clinical lameness and regained the use of their limbs more quickly after surgery. No adverse side effects were recorded for PCSO-524 in this study. By comparison, adverse side effects were recorded for NSAIDs in 10 dogs after the previous surgery. Owners who had observed an improvement in clinical signs showed a strong preference for the use of PCSO-524. This study showed that PCSO-524 had the efficacy to reduce the inflammation and pain after stifle surgery.

MATERIALS AND METHODS



RESULT

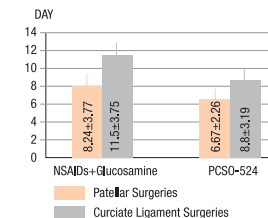
Lameness score

Lameness score (mean±SD)	Week 1	Week 2	Week 3	Week 16
Patellar Sx (NSAID+GS)	2.39±0.69 [®]	1.22±0.94*	0.67±0.68*	0.67±0.82
Patellar Sx (PCSO-524)	1.78±0.65 [®]	1.05±0.87*	0.61±0.61*	0.56±0.62
CrCLR Sx (NSAID+GS)	3.40±0.52 [®]	1.90±0.56*	1.80±0.63*	0.30±0.57
CrCLR Sx (PCSO-524)	2.20±0.42 [®]	1.90±0.56*	1.80±0.63*	0.30±0.46

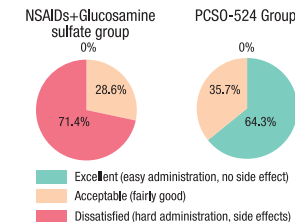
Patellar Sx means patellar surgeries
 CrCLR Sx means cranial cruciate ligament rupture surgeries
 GS means glucosamine sulfate

* values were significant difference between Patellar Sx and CrCLR Sx
[®] values were significant difference between NSAIDs+GS and PCSO-524 groups

Time taken to regain use of the limb post surgery



Owner preferences



Side effects of the post-operative medications

- NSAIDs + glucosamine: GI irritation (n=3) and vomiting (n=7)
- PCSO-524 : none

Radiographic examination

No significant difference in the radiographic score improvement between two operations with different post-operative medication

INTRODUCTION

Marine lipid extract from the oil of the New Zealand green-lipped mussel (NZ-GLM), *Perna canaliculus*, contains a unique group of polyunsaturated fatty acids (PUFAs) that include eicosatetraenoic acid. Moreover, it is a source of long-chain omega-3 PUFAs, which have been proven to be an effective anti-inflammatory and to improve the clinical signs of OA in some studies (1-3). The surgical correction of medial patellar luxation and the surgical correction of cranial cruciate ligament ruptures are the most common stifle surgeries to prevent or to slow the progress of OA in the stifle joints by increasing the stability of the stifle joints (4). The surgical intervention always damaged the articular cartilage and the joint capsules, which led to the development of osteoarthritis (OA) (6-7). The pro-inflammatory mechanism of OA is associated closely with cell-membrane-bound arachidonic acid, which is converted into potent inflammatory substances in the body. This occurs in two major pathways of metabolism: the 5-lipoxygenase pathway, which leads to the formation of leukotrienes; and the cyclo-oxygenase pathway, which leads to the formation of prostaglandins and thromboxanes, which begin the process of cartilage degeneration (5). Although GLM products were recommended to reduce an inflammatory condition, we performed this study to evaluate the efficacy of PCSO-524 in the reduction of the inflammatory response and to reduce the need for the use of NSAIDs after stifle surgery. This study was devoted to clinical signs of improvement. Thus, the aim of this pilot study was to observe the clinical effects of the marine oil extract PCSO-524 (a long-chain omega-3PUFA compound from the NZ-GLM) instead of using NSAIDs after stifle surgery.

DISCUSSIONS AND CONCLUSIONS

NSAIDs affect the inflammatory pathway by inhibiting cyclo-oxygenase (COX) but long-term use and/or in large doses induces gastric ulcers and causes platelet aggregation, especially classical NSAIDs (6). Therefore, this study aimed to investigate the anti-inflammatory and analgesic effects of PCSO-524 PUFAs in order to decrease the use of post-operative NSAIDs after stifle surgery. In this study, the dogs to which PCSO-524 was administered had better clinical outcomes than the dogs that were given glucosamine and NSAIDs and had enough anti-inflammatory and analgesic effects to be preferred as a post-operative treatment for dogs that have had stifle surgery.

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