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SUSTAINED RELEASE OF TRIAMCINOLONE ACETONIDE FOR THE TREATMENT OF OSTEOARTHRITIS: A CASE SERIES OF 12 CLIENT-OWNED DOGS

Introduction

Osteoarthritis (OA) is a common cause of pain and lameness in dogs, with over 20% of adult dogs being affected. Increasing evidence suggest a role for pro-inflammatory mediators. Anti-inflammatory drugs therefore are an appropriate treatment strategy. Local injection of corticosteroids have proven to be effective in treating OA pain, but have a short period of action (< 4 weeks). The aim of this study was to investigate in a cohort study the safety of intra-articular (IA) injected poly(esteramide) microparticles containing triamcinolone acetonide (TAA-PEAMs), that provide drug release for 3-6 months.

Material and methods

OA was diagnosed using clinical examination, plain radiography and gait was assessed by force plate analysis. After collection of baseline synovial fluid samples, TAA-PEAMs were administered IA in the affected joint. At 1 and 2 months post-injection, clinical examination and gait analysis were performed and at 2 and 6 months post-injection, plain radiography and synovial fluid collection were repeated. During each visit, owners filled in questionnaires regarding the pain and function of their dog.

Results

OA was diagnosed in 14 articular joints of 12 client-owned dogs (including 2 hip-, 9 elbow-, 2 knee- and 1 tarsal joint). Compared to pre-treatment values, IA injection of TAA-PEAMs significantly improved pain- and function-related behavior according to owner questionnaires and visual lameness scores. With objective gait analysis, an improvement was detected in vertical force of the affected limb at 1 and 2 months post-injection, and improvement of the propulsive force, at 1 month post-injection. Radiographs taken 2 and 6 months post-injection did not show significant changes in OA grading. Synovial fluid analyses are currently ongoing.

Conclusions

This cohort study showed safety and favourable clinical effects in 12 client-owned dogs with OA. Long term follow up and a randomized controlled study should confirm these preliminary results in a larger patient population.