Tramadol and gabapentin improve peak vertical force in osteoarthritic dogs already receiving non-steroidal anti-inflammatory drugs

James Miles, Jimmy Bøjesen, Philip Christensen, Emilie Andersen-Ranberg, Anne Vitger, Helle Harding Poulsen, Lise Nikolic Nielsen

Department of Veterinary Clinical Sciences, University of Copenhagen, Copenhagen, Denmark

OBJECTIVES

Osteoarthritis is a common, disabling condition of older dogs. The response to non-steroidal anti-inflammatories may be insufficient to maintain a good quality of life. Limited data exist regarding the effect of adjunctive analgesics in these patients despite widespread usage.

METHODS

Twenty-four osteoarthritic dogs were prospectively recruited to a randomised, observer-blinded, crossover study. In addition to non-steroidal anti-inflammatory treatment, patients received either tramadol (3–5 mg/kg) or gabapentin (8–12 mg/kg) thrice daily for 4 weeks, with a one-week washout between treatments. Using a Tekscan pressure-sensitive walkway, peak vertical force for the worst-affected limb was used as the outcome measure. Haematology, biochemistry and urinalysis were performed before and after each treatment period.

RESULTS

Eighteen dogs completed the trial. Both tramadol and gabapentin significantly ($p < 0.01$) increased peak vertical force (mean 6.7% and 6.4%, respectively). No carryover or period effects of treatment were seen ($p > 0.05$). No statistically significant difference was found between treatments, but more dogs achieved an increase of >5% in peak vertical force with gabapentin than with tramadol (61% vs 50%). No significant changes to selected paraclinical parameters were observed. One or more side effects (typically transient and dose-dependent) occurred in up to 70% of dogs with both treatments.

STATEMENT (CONCLUSIONS)

Both tramadol and gabapentin can improve weight bearing in osteoarthritic dogs, and both appear safe for short-term use in older patients, but the incidence of side effects appears high compared to previous reports, and may outweigh the benefits in some patients. Owner counselling is recommended before and during use of these medications.

A clinical investigation into long term efficacy outcomes in the management of severe canine osteoarthritis (OA) using an optimised regenerative medicine (RM) approach

Joanna Miller[1], Christine Standen[1], Alex Georgiou[2], Andrew Armitage[3]

1 Cell Therapy Sciences, Coventry, United Kingdom
2 Coventry University, Coventry, United Kingdom
3 Greenside Regenerative Therapies, St Boswells, United Kingdom

OBJECTIVES

To evaluate whether optimised regenerative medicine protocols can provide long-term control of severe OA in dogs.

METHODS

Dogs with a well-documented history of moderate-severe OA were given intra-articular (IA) injections of culture-expanded adipose-derived autologous stem cells (adMSCs) with/without platelet rich plasma (PRP) and/or laser therapy as part of an individualized RM treatment plan. Veterinary Global Score (VGS) based on clinical examinations and owners' feedback on pain and mobility, was used to evaluate treatment response. Dogs were followed-up for up to 4 years. Long-term outcomes in severe disease were evaluated in a sub-group of dogs. RM protocol was repeated at the discretion of the vet when the VGS indicated a return of pre-treatment symptoms.

RESULTS

499 dogs were entered into the main analysis. Overall clinical response was 79% moderate-excellent response as measured by the VGS. 29% of all dogs required repeat IA injections, mean time to repeat treatment was

11 months. 45 dogs with severe OA provided long-term follow-up data for inclusion in the sub-group analysis.

The majority of dogs (98%) with severe OA demonstrated a clinical improvement (44/45 cases) following the RM treatment protocol, with 58% evaluated as demonstrating an excellent response (26/45). 58% of these dogs required repeat treatment with a mean time to repeat therapy of 15.6 months.

STATEMENT (CONCLUSIONS)

RM treatment protocols provide a well-tolerated, effective option in the long-term management of severe canine OA, with clinical improvements maintained for up to 4 years. Further studies are required to evaluate the effect size in comparison with other OA management protocols.