Efficacy of meloxicam compared with carprofen for treating canine osteoarthritis

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**BOTTOM LINE**

- There is insufficient evidence to determine whether treatment with meloxicam results in greater clinical improvement in dogs with osteoarthritis than treatment with carprofen.

**Clinical scenario**

Sasha is a 12-year-old rough collie presenting to you with a history of gradual onset stiffness and reluctance to exercise. You perform a clinical examination and find reduced range of movement and pain on manipulation of several limb joints. You follow this up with radiographs to confirm your diagnosis of osteoarthritis. You plan to dispense meloxicam for Sasha. However, Sasha's owner mentions that one of his previous dogs was treated for arthritis with carprofen, and he asks whether the meloxicam will be more effective. You wonder whether treatment with meloxicam will give a greater improvement in clinical signs than carprofen.

**The question**

In [dogs with osteoarthritis] does [meloxicam compared with carprofen] result in [greatest clinical improvement]?

**Search parameters**

The search strategy can be viewed at https://bestbetsforvets.org/bet/234, and it is also available as a supplement to this article on Vet Record’s website at https://veterinaryrecord.bmj.com/content/186/3/94

**Search outcome**

- Three hundred and forty-two papers were found in the Medline search.
- Three hundred and thirty papers were excluded because they did not answer the question.
- Eleven papers were excluded because they were review articles, in vitro research or conference proceedings.
- In total, one relevant paper was obtained.
- Four hundred and twelve papers were found in the CAB search.
- Four hundred and one papers were excluded because they did not answer the question.
- One paper was excluded because it was not written in English.
- Nine papers were excluded because they were review articles, in vitro research or conference proceedings.
- In total, one relevant paper was obtained.
- Overall, one relevant paper was identified.

Three systematic reviews of canine osteoarthritis treatment were also identified, but none directly answered the question and thus were excluded.

**Search last performed:** 14 December 2019

**Summary of evidence**

**Paper 1:** Clinical evaluation of a nutraceutical, carprofen and meloxicam for the treatment of dogs with osteoarthritis

**Patient group:** A total of 71 client-owned dogs over 18 months of age, weighing over 20 kg, with clinical and radiographical evidence of chronic, stable osteoarthritis in one or both elbow(s), stifle(s) or hip joint(s).

**Study type:** Randomised controlled trial.

**Outcomes:** Owners provided subjective assessments of the dogs’ activity and pain, and a veterinary orthopaedic surgeon subjectively assessed the dogs’ lameness, articular mobility and articular pain. Objective gait analysis was also performed using ground reaction force measurements. In addition, standard biochemistry, haematology and faecal occult blood testing were performed.

**Key results:** Owners reported no statistically significant response in dogs receiving carprofen. In dogs receiving meloxicam, a subgroup with stifle disease (n=6) were reported to have a statistically significant response at day 30 but not at day 60.

Relative to baseline, dogs receiving either carprofen or meloxicam showed statistically significant improvement in subjective orthopaedic scores at day 30 but not at day 60. They also showed improvements in some selected ground reaction force measures.

**Study weaknesses:** The baseline characteristics of each treatment group are incompletely reported, making comparability difficult to assess. No sample size or power calculation is presented, and the data were not analysed using statistical methods to compare responses between the groups.

**Comments**

The quality of the single study identified is questionable, with a high risk of bias due to selective reporting and manufacturer sponsorship – the study was funded by Boehringer Ingelheim, manufacturer of the meloxicam brand ‘Metacam’. The generalisability of the results to other dogs with osteoarthritis is, therefore, uncertain.

**References**


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