Long Term Use of NSAIDs in Cats

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1. Currently only two NSAIDs licensed in U.S. for oral administration
   a. Metacam 1 day
   b. Robenacoxib 3 days
2. Problems with long term administration of NSAIDs in cats
   a. Dosing. Dose for short term administration is given daily for longer periods
   b. Metabolism. Metabolism for many NSAIDs exceed or approach 24 hour period.
3. Reasons to give long term NSAIDs in cats
   a. Osteoarthritis
      i. Radiographs of all cats seen in university setting
         1. 6 years and older 61% had OA in at least one joint, 42% in more than one
         2. 14 years and older 84% had OA in at least one joint.
      ii. Duncan Lascelles randomly looked for OA in 100 cats aged up to 20 years
         1. 92% had radiographic evidence of OA
   b. Transitional Cell Carcinoma
      i. Increased survival times in cats given daily treatments of meloxicam
   c. There are no drugs licensed for the chronic treatment of OA in cats.
4. Dosage of NSAIDs licensed for use in cats in the United Kingdom, given by mouth
   a. Meloxicam
      i. Brand name Metacam
      ii. Dose 0.1 mg/kg day one then 0.05 mg/kg q24
      iii. Easy to administer in food, accurate dosing if syringe is used
      iv. No limit on length of administration
   b. Robenacoxib
      i. Brand name Onsior
      ii. Dose 1-2 mg/kg q24 for up to 6 days
      iii. For use in acute pain and inflammation
   c. Ketoprofen
      i. Brand name Ketofen
      ii. Dose 1 mg/kg q24 up to 5 days
      iii. Indication is acute pain from musculoskeletal disorders
   d. Tolfenamic acid
      i. Brand name Tolfedine
      ii. Dose 4 mg/kg q24h for 3 days
      iii. Indication is for treatment of fever
5. Considerations as recommended by the AAFP
   a. Perform physical exam, blood pressure, CBC, blood chemistry, urinalysis prior to starting on long term therapy
   b. Routinely monitor the patient every 3-6 months
   c. Ensure accurate dosing
   d. Base dose on lean body mass
   e. Give drug with or after food
   f. Feed moist food to insure good fluid intake
   g. Educate owners on potential side-effects
   h. Stop drug if cat stops eating
      i. Titrate to lowest effective dose
   j. Reduce the dose if other drugs are being used
   k. Never give with corticosteroids
6. Metacam
   a. Chronic use is supported in United Kingdom
      i. Most but not all issues in cats in US was related to one-time dose being given on a daily basis
   b. Study published in the Veterinary Journal 2013 evaluated the efficacy of meloxicam in the treatment of OA.
i. Cats were given daily dosing at 0.025 mg/kg, 0.04 mg/kg, 0.05 mg/kg

ii. Most cats did well

   1. It was determined that many of the cats that did not respond well had concurrent allodynia.

iii. Cats given the daily dose of 0.025 mg/kg sometimes had rebound pain when the medication was stopped.

7. Robenacoxib
   a. Not approved for chronic use anywhere
   b. Has very low blood half life at only a few hours

   i. Mean residence rate in tissue exudates is 24 hours
   c. Toxicity studies

   i. Only done in young healthy DSH cats
   ii. Randomized, blinded and placebo controlled
   iii. Study 1 was given at doses of 0, 5 and 10mg/kg q24h for 28 days
   iv. Study 2 was given at doses of 0, 2, 6 and 10 mg/kg q24h for 42 days
   v. (Recommended minimum dose is 1 mg/kg q24h with a range of 1-2.4 mg/kg
   vi. Observations of health, blood, chemistry, urinalyses and post-mortem assessments
   vii. No toxicologically significant events in either study at all doses.

8. Does this mean all OA cats should get meloxicam or robacoxib?
   a. No?

   i. It is off label. The decision to do so should take into QOL assessment, inability to control pain by other means, proximity of decision by owner to euthanize
   ii. The previously mentioned warnings and precautions need to be heeded
   b. Yes?

   i. We have the obligation to relieve pain and suffering
   ii. Owners that are aware of risk and understand that it is an off label use can be considered
   iii. Other options must be pursued first

9. Alternative medications also all off label
   a. Amantadine for suppression of NMDA pathway, hyperalgesia, allodynia 3-5 mg/kg po q24h
   b. Amitriptyline as a serotonin reuptake inhibitor 0.5-1 mg/kg po q24h
   c. Gabapentin as a delta-2 alpha ligand antagonist 5-10 mg/kg po q12-24h
   d. Tramadol as a serotonin reuptake inhibitor and opioid-like medication at 1-2 mg/kg q12-24h

10. Nutraceuticals
    a. Glucosamine and chondroitin sulfate supplements
    b. Omega-3 fatty acids
    c. Soybean Avocado Unsaponifiables

11. Weight loss

12. Acupuncture

13. Physical Therapy/Rehabilitation

14. Massage

15. Exercise