

Multimodal Analgesia: the good stuff

Questions and answers

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1. What do you think about subcutaneous micro doses of ketamine for chronic pain management?

We don't have currently enough data to support the use of sc ketamine. There are some practitioners and specialists that use it as part of their practice and they have good results, until we have data to support this, we cannot recommend it.

2. Regional anaesthesia. Is it possible without a nerve stimulator? What is better? I was taught that you either infiltrate the nerve or you don't. Is a larger volume any more effective?

Regional anaesthesia without nerve stimulator or ultrasound, I guess you mean the techniques based on the anatomical landmarks. For some local blocks, like the dental blocks, they can be performed based only the anatomical landmarks. However, the majority of the nerve blocks that are based on accurate location of the nerve, they require the aid of a nerve stimulator or ultrasound guidance. Splash blocks can be performed by infusing an amount of local anaesthesia over an area or a certain area can be also infiltrated with local anaesthetic. The success of those blocks can be quite limited.

3. Is morphine an option for epidural in cats?

We normally use 0.1-0.2 mg/kg with preservative free morphine.

4. What will be a good protocol for management of chronic pain using ketamine?

We tend to use 0.5mg/kg ketamine IV over 30 min, and then 3-6 mcg/kg/min for few hours depending on the case. The animals should be monitored for dysphoria and any possible comorbidities should be considered. Always keep in mind that ketamine is sympathomimetic and could increase the oxygen consumption.

5. Do you have any concerns about using NSAIDS long term with anti NGF drugs?

There are some studies that showed that there were no side effects by concurrent administration for couple of weeks. However, on the company's website, it is stated that: 'The safe use of anti-NGF monoclonal antibodies with concurrent non-steroidal anti-inflammatory drugs (NSAIDs) has not been established in dogs.'

6. Hello, can I ask you about metamizole? Do you use it?

I have very limited experience with metamizole I am afraid, but there is evidence that can provide adequate post-operative pain relief in dogs undergoing ovariohysterectomy. It has been also proven that it not related with GI effects and the recommended dose is 25-35 mg/kg.

7. What analgesia can we use in a cat with CRF and ulcers in mouth?

In cats with chronic kidney disease (rather than failure), we can use low dose of NSAIDs as that was recently proven, that it does not affect the life span of cats with stable IRIS stage II, III that they are receiving meloxicam. Transmucosal buprenorphine 20-40mcg/kg and gabapentin 10mg kg BID to TID can also be added to the analgesia plan. Be aware that it is possible to have sedation/ ataxia for the first 48-72h.

8. In which cases would you use butorphanol and which would be the best combinations for? Thanks a lot, nice presentation.

Butorphanol can be used in cases that are not painful as it is only a mild analgesic. However, it provides very good sedation and it is an antitussive. It could be used in cases such as endoscopy, bronchoscopy, diagnostics (including echo) and to facilitate in general short non painful procedures. It does not cause any cardiovascular compromise and it can be used in cases where you would like to avoid bradycardia and respiratory depression. Always keep in mind that the duration of action is 60-90 minutes so relatively short, and it is not good analgesic so if you are dealing with a compromised and painful patient it is advisable to provide additional analgesia or choose a different opioid all together.

9. Is there any evidence that piperant (Galliprant) are safer than cox-2 inhibitors for pain control?

Galliprant despite being more specific and targeting on the EP4 receptors and acting as a prostaglandin antagonist, it is actually not a safer choice. At least there is no evidence for that kind of safety superiority. There are the same concerns over renal and gastrointestinal side effects and the same precautions. As far as I know, at the moment Galliprant is not licenced for long term use in the UK, but there is a safety study in place.

10. What about an 8-year old cat (or anyway not too old) with CKD and bad osteoarthritis?

I would say it is not very common to have advanced osteoarthritis in young animals. If that is the case for any reason and the renal condition is stable and well controlled, the priority should be the quality of life of the animal. There are more that can be done for a patient with osteoarthritis. Some additional options could be, gabapentin, anti-NGF, amantadine, acupuncture could all be considered. In case NSAIDs is the game changer for the well being of the animal, they can be added in the minimum effective dose or being used as a rescue analgesia. Bear in mind that the analgesic dose is less than the anti-inflammatory dose for NSAIDs.

11. What dose of ketamine s/c for chronic pain and how often? You mentioned this for the chronic pancreatitis case?

We have been using ketamine for the management of pancreatitis pain but not s/c. We are using ketamine IV instead and have seen some quite good results.

Our protocol includes: 0.5 mg/kg ketamine IV over 20 minutes and that is followed by 2-4 hours ketamine infusion 2-4mcg/kg/min. The dosing depends on the patient and whether they have developed dysphoria with the administration of ketamine.

Currently, we don't have evidence for recommending the use of sc ketamine but there are cases that colleagues have found it useful.

12. Dosage of gabapentin in small animals in combination with a tranquilizing before the visit to practice.

If I understand the question correctly, the protocol we are currently using for cats is gabapentin 10 mg /kg the night before and the same dose 2 h before the visit to the vets.

For dogs we use a combination of gabapentin and trazodone. Again gabapentin 10 mg /kg the night before and 2 h before the visit, in addition to trazodone 5 mg/kg the night before and 2h prior the visit as well.

There are some resources like the CHILL protocol that you could check as well.

13. Which is the highest dose of gaba?

Normally start with 10mg/kg twice per day and we can go up to 15-20mg/kg TID. Again, be aware of ataxia and sedation for the first 2-3 days. Also, you will need to titrate for few weeks rather than just stop abruptly because withdrawal symptoms have been reported.

14. What is the duration of action of buprenorphine in cats and dogs?

6-8 hours according to the dose. By increasing the dose, is the duration rather than actual effect that is prolonged. I would advise to pain score anyway and determine the duration of action for your actual animal, as it can differ between individuals and different pain intensity.

15. If you have used it, what is your opinion on transdermal gabapentin in cats?

There was one pilot study where the conclusion was that the transdermal gabapentin penetrates the skin in cats and there is a potential of use in the future, as there was plasma concentration after dosing. The results were promising but variable and we need to keep in mind that this was just a pilot study. There are also efficacy studies in humans, but I have to admit I have never used it. I can see the appeal of not giving a pill to the cat that can sometimes be difficult. However, the transdermal route (cervical area and ear pinna in that study) has certain drawbacks including the non-standardised absorption and variant effect.

16. What is the duration of action of methadone in dogs and cats?

As a lipophilic compound it is mentioned that methadone lasts 3-4 hours but there is literature that is mentioning a duration up to 6h. Currently, we are dosing methadone every 4 h. In case we think that the animal is comfortable or sedated we are re assessing by pain scores an hour later.

17. The transdermal formulation of gabapentine, has the same effectiveness as a PO formulation?

There is no comparable evidence with the PO formulation.

18. What is kitty magic?

I have to admit, I had no idea what that is, and I had to google it. Apparently is the well-known cocktail of butorphanol or buprenorphine with dexmedetomidine and ketamine that can be given in the mouth as well via a catheter. There is place for this combination especially in feral and aggressive animals. I would say that, when possible, we advocate tailor made plans especially for client owned cats. This can be useful in animal shelters as well. Since, I am not using it myself I cannot recommend doses.

You can find more information in this website and in the relevant paper from 2016

<https://www.dvm360.com/view/squirt-little-magic-hissing-cat-s-mouth>