LUMBRYPARK
VETERINARY SPECIALISTS

VETCONNECT

INSIDE:

- Meet the Anaesthesia Team
- Pain Clinic Case Report
- Community Spotlight: Anaesthesia Q&A

WELCOME
CLINICAL DIRECTOR UPDATE

Dear friends and colleagues,


COLIN DRIVER


TIM SPARROW

Welcome to the second edition of Vet Connect, this time with a focus on anaesthesia and analgesia. We're just about catching our breath after another very busy Summer; we hope you and your teams have fared well during this period. As we get close to a time where in-person CPD will become a realistic prospect, we are very much looking forward to seeing you and thanking you in person for your continued support. Keep an eye on our referral reports, website and Facebook page for updates.

Welcoming new team members

We have recently had the pleasure of welcoming Drs Martina Cambruzzi and Kate Walters to our team. Martina and Kate join us from the universities of Bristol and Cambridge respectively, where they recently completed their residency training. They join our three boarded anaesthetists Karla Borland, Joanne Michou and Maria Chie Niimura del Barrio; who are supported by Marc Amour, newly appointed ECVAA resident in anaesthesia, and our two service-specific interns, Lucy Carter and Alicia Manzano.

We are also pleased to announce further strengthening to our internal medicine and diagnostic imaging teams. Drs Shaun Calleja and Dee Mullowney join us from Anderson Moores and the RVC respectively; both have recently passed their certifying examinations for the ACVIM diploma. Dr Mark Plested is an experienced radiologist who has just joined us from the RVC; Mark has recently gained the ECVDI diploma, making him double-boarded and both an American and European Specialist in Diagnostic Imaging, so congratulations and welcome to Mark.

In other news at Lumbry Park, we are putting the finishing touches to our intensive care unit. We have invested heavily in this facility in recent months and it is replete with computer-controlled oxygen kennels, high-flow nasal oxygen system, state-of-the-art ICU ventilator an acoustically shielded feline area. Our ECC service is led by Dr Caroline Hirst DipACVECC DipECVECC who joined us this year from Langford; we will focus on Caroline, her team and our new ICU in our next edition.

As always, supporting our colleagues in general practice is at the heart of everything we do; we welcome your feedback and suggestions.

Thank you for your continued support.

Colin Driver and Tim Sparrow

ANAESTHESIA SPOTLIGHT CLINICAL Q&A

KARLA BORLAND

MA VETMB DIPECVAA
MRCVS, RCVS SPECIALIST IN
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ANAESTHESIA AND
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ANA ARCANJO

MRCVS
PET DOCTORS
IN GUILDFORD

Ana: We have now been using medetomidine alongside opiods as a pre-med due to its sedative and analgesic properties. However the dose range is very wide, so what range of dose of medetomidine is the most indicated, depending on the situation?

Karla: It's difficult to have a precise dose for medetomidine or dexmedetomidine as it will depend on the temperament of the patient, the health status and the procedure that will be performed. When administering IV prior to e.g. a spay in a young healthy dog I would normally give 5mcg/kg IV and would be happy to repeat this dose if the level of sedation is inadequate. For nervous dogs that may bite and require an intramuscular injection I might use 10mcg/kg in combination with e.g. methadone, ketamine and midazolam.

Ana: What is your opinion about co-induction technique? For example, the use of midazolam in combination with propofol?

Karla: The co-induction technique can be very useful in order to minimise the amount of induction agent given. However, the most important thing is giving your induction agent slowly and waiting for an appropriate effect. I will often wait two minutes after giving e.g. 1mg/kg propofol, while preoxygenating with a mask. If you do add midazolam it can be useful to give a small bolus of propofol first, e.g. 0.5mg/kg IV, before giving midazolam in order to minimise any excitement, before giving the rest of the propofol to effect. Other co-induction drugs include ketamine and lidocaine.

Ana: What is your opinion about glycopyrrolate vs atropine in patients who are severely bradycardic?

Karla: The first question I would ask is why the patient is bradycardic? If the bradycardia is secondary to administration of an alpha 2 agonist then the bradycardia will be a reflex bradycardia i.e. an initial vasoconstriction is followed by an increase in blood pressure and a compensatory bradycardia. In this case administering an anti-cholinergic agent will increase the heart rate but the heart will be beating at a faster rate against an increased resistance, due to the vasoconstriction. In healthy dogs I tend to check the blood pressure and the pulse rate and quality. If all are appropriate then I normally won't administer an anti-cholinergic agent such as atropine or glycopyrrolate. However, if the blood pressure is low and the heart rate is low it is appropriate to give atropine or glycopyrrolate. If a very rapid effect is required, for example in an emergency, I would use atropine but otherwise glycopyrrolate is my drug of choice.

Ana: When it comes to brachycephalic breeds what protocols work better in patients who an intravenous catheter cannot be placed?

Karla: Brachycephalic breeds are always a challenge! If an intravenous cannula cannot be placed then an IM sedation combining several drugs is useful. The aim is to minimise the side effects of any one drug by using lower doses of several medications. The combination could include acepromazine (5-10mcg/kg), dexmedetomidine (5mcg/kg) or medetomidine (10mcg/kg) and butorphanol or methadone (0.2mg/kg). All drugs can be combined in one syringe. A quiet and calm environment for the dog is essential and the provision of oxygen, ideally via face mask, should be initiated as soon as possible.

Ana: Should anti-acids and anti-emetics be part of the anaesthesia protocol in brachycephalic breeds?

Karla: Regurgitation is common in brachycephalic breeds, which carries a risk of aspiration. Anti-emetics may reduce nausea and proton pump inhibitors e.g. omeprazole can help reduce the risk of oesophagitis should regurgitation occur. Both are part of our BOAS protocol prior to general anaesthesia. In cases with a prior history of regurgitation and in French Bulldogs a metoclopramide infusion can also be used. Suction should be set up prior to induction to minimise the risk of aspiration should the dog regurgitate during anaesthesia.

MEET THE ANAESTHESIA TEAM

We are very fortunate to have such a talented and hard-working team of anaesthetists, led by European Specialist, Karla Borland. Through their knowledge and experience in analgesia and critical care, they ensure that we have the highest standards of anaesthetic safety and patient care.

Please feel free to make use of their expertise if you need it; they are happy to promptly respond to advice queries.

PICTURED LEFT TO RIGHT: MARK ARMOUR, RESIDENT IN ANAESTHESIA AND ANALGESIA; ALICIA MANZANO, ANAESTHESIA INTERN; JOANNE MICHOU, EBVS® EUROPEAN AND RCVS RECOGNISED SPECIALIST IN VETERINARY ANAESTHESIA AND ANALGESIA; MARTINA CAMBRUZZI, BOARD ELIGIBLE CLINICAL ANAESTHETIST; LUCY CARTER, ANAESTHESIA INTERN; KARLA BORLAND, EBVS® EUROPEAN SPECIALIST IN VETERINARY ANAESTHESIA AND ANALGESIA; KATE WALTERS, BOARD ELIGIBLE CLINICAL ANAESTHETIST; MARIA CHIE NIIMURA DEL BARRIO, RCVS RECOGNISED SPECIALIST IN ANAESTHESIA AND ANALGESIA.

CASE STUDY

JOANNE MICHOU

MA VETMB DIPECVAA MRCVS, EBVS® EUROPEAN AND RCVS RECOGNISED SPECIALIST IN VETERINARY ANAESTHESIA AND ANALGESIA

Here we present a pain clinic case report that demonstrates how our teamwork in anaesthesia and pain management, neurology, orthopaedics and physiotherapy come together to give a successful outcome for the patient and owner.

Pain clinic cases can be extremely rewarding but also challenging. They are often older patients, with multiple co-morbidities, multiple sources of pain, who are frequently intolerant of certain drug therapies. They may have been 'trialling' drug therapies that seem not to work and the history is often such that it takes much longer than is often given in the tight consult times of general practice. There are also often very strong emotive ties for the owner to certain behaviours and activities.

Meet Harry. Harry was an eight-year-old, 33Kg male neutered labrador-cross breed who initially presented to our neurology and orthopaedic services as the owner noted that Harry was acutely reluctant to sit down and seemed in pain. He also had a history of chronic elbow disease, thickened stifles and was prone to gastro-intestinal upset with NSAID's.

Harry's owners were very dedicated and keen to perform diagnostics and discuss treatment options thereafter to give Harry the best quality of life. After initial assessment, one of our anaesthetists prepared him for general anaesthesia and our radiography team performed radiographs of the pelvis and stifles, CT of the thoracic limbs and MRI of the lumbosacral spine.

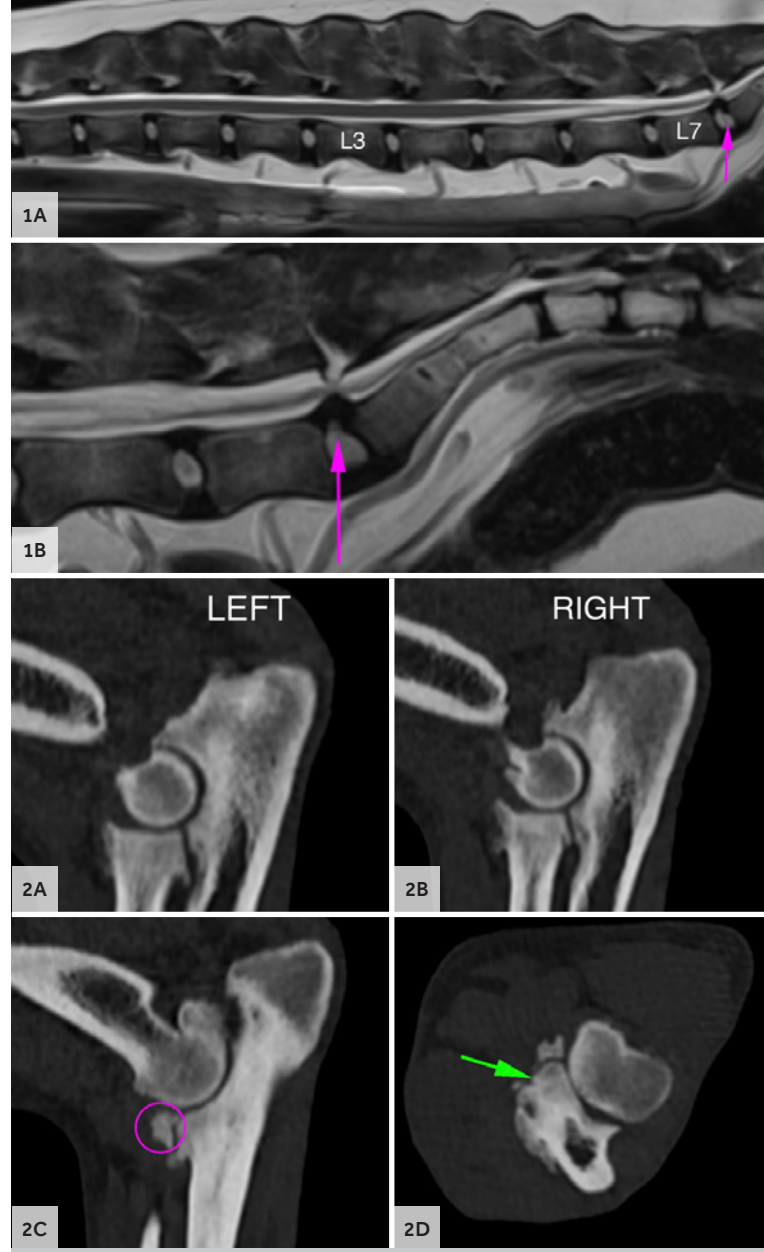

Figure 1 (A & B): MRI sagittal T2WI of the lumbosacral spine showing mild protrusion of the intervertebral disc at the lumbosacral area producing partial loss of the epidural fat, with no evidence of caudal equina displacement or compression (pink arrow). Symmetrical and normal appearance of nerve roots.

Figure 2 (C, D, E & F): CT of the elbows shows bilateral joint effusions, moderate periarticular new bone formation affecting both elbows. The right medial coronoid process has an irregular surface with new bone formations. The left one has a flattened surface and moderate sclerosis of the adjacent bone that extends towards the radioulnar incisure (green arrow). Presence of several mildly displaced articular fragments (pink circles).absence of the odontoid process (*).

Harry was found to have chronic severe bilateral elbow osteoarthritis, bilateral degenerative carpal and metacarpo-phalangeal joint osteoarthritis, very minor right stifle degenerative joint disease and a non-compressive lumbosacral disc protrusion. With the severity of the elbow disease and multiple joints affected, medical management was deemed most appropriate. Harry was discharged to return two weeks later for assessment in the pain clinic to assist with ongoing management. He had been prescribed memantine, gabapentin and paracetamol and alteration and restriction in exercise regime.

After an introduction and briefly explaining my role within the hospital as an anaesthetist and specialist in pain management, I started by collecting a detailed history.

Prior to being seen at Lumbry Park, Harry had a variety of therapeutic interventions over the years including elbow arthroscopy, two steroid LS epidural injections, platelet-rich plasma in carpi and elbow joints, physiotherapy and hydrotherapy, a course of cartrophen injections, and a variety of analgesic agents including paracetamol, tramadol, NSAID's including meloxicam, carprofen, robenacoxib and previcox. He had a history of GI upset, particularly with NSAID's.

The main presenting complaint was that Harry did not want to sit down and seemed uncomfortable. The owners were worried about his quality of life and that he seemed in pain.

The owners thought there had been no improvement since he was seen three weeks ago, although they had not started the medications dispensed as they were concerned regarding the possible side effects. The owners found it hard to follow the exercise plan and keep him on lead as he was so full of energy and once he was off lead he ran into the bushes, swam in the sea and chased squirrels.

The owners had lots of questions about the medication he had been given and also other questions from research they had found, including a relatively new drug, bedinvetmab, and why the data sheet for the memantine was targeted at use in humans for cognitive dysfunction.

Examination revealed a marked forelimb lameness, worse on the left than the right, myofascial triggers points particularly over the right lumbar paraspinals and responsive to even gentle sensation over the elbows. I recommended trying a non-invasive pain management plan, including acupuncture initially once a week. I recommended modulation of exercise with very specific instructions to avoid any room for interpretation. This is a balance between the owner and pet's emotional wellbeing and avoiding exacerbation of the disease.

The owners still had concerns regarding grapiprant, so after ensuring there were no side effects from the memantine and gabapentin, we started the grapiprant a week later as Harry was still in some discomfort.

By the third week the owners had noticed significant improvement. Harry continued to improve thereafter, although there were times of acute deterioration. With some investigation, it was often found to be linked to a specific type of activity or length of exercise.

Six months after his first pain clinic consultation, Harry is doing brilliantly. His owners are thrilled and believe this is the best he has been in a very long time. He is now undergoing acupuncture once every five weeks, seen our wonderful physiotherapist who has helped the owner learn how to perform massage and he is now only receiving grapiprant.

In my experience, building a rapport with the owners who have often had many appointments sometimes at multiple veterinary practices for the same conditions, is of vital importance for them to trust. Quite often there is a need from the owners to understand which also helps aid exercise, activity and drug compliance.