A review of local and regional anaesthesia methods, and when to use them, will be made by a pictorial approach to the key techniques: mandibular, infraorbital and maxillary nerve blocks.

Reported complications including intraneural and intravascular injection, haematoma formation, neuropraxia and injury to the globe and are common reasons inhibiting the use of regional anaesthesia by clinicians. Appropriate technique dramatically decreases the risks associated with regional anaesthesia.

Materials used to perform local anaesthesia of the head are inexpensive and widely available in practice. Local anaesthesia should be employed whenever the clinician believes that a procedure is likely to result in nociception. Situations where local anaesthesia may not be appropriate will be discussed. The importance of drug selection, both single agent and admixtures, and the time of administration in the workflow of the procedure will be discussed in order for the clinician to be able to achieve the maximum benefits afforded by regional anaesthesia.

KEY LEARNING OBJECTIVES

- Be able to select appropriate materials to perform regional anaesthesia of the oral cavity
- Understand the risks associated with individual regional anaesthetic techniques and how to minimize them

- Identify the appropriate technique for regional anaesthesia of a chosen region of the mouth

MULTIPLE CHOICE QUESTIONS

1. What is the duration of action of lidocaine?
 - (A) 30–90 minutes
 - (B) 2–3 hours
 - (C) 4–8 hours
 - (D) 12–18 hours
2. What proportional distance, along an imaginary line between the last molar and the angular process of the mandible can the mandibular foramen be located?
 - (A) 1/4
 - (B) 1/2
 - (C) 5/8
 - (D) 3/4
3. Accidental intravenous administration of bupivacaine can result in which of the following?
 - (A) Bradycardia
 - (B) Hypertension
 - (C) Tachycardia
 - (D) Hypothermia

Holistic approach to analgesia of dental cases including aftercare

Andrew Perry

The majority of oral pathologies result in some degree of nociception. Nociceptors are found in the dental pulp, periodontal ligament, gingiva, mucosa and the bones of the mandible and maxilla. The same neural pathways identified in humans are also found in companion animals. It can be inferred that lesions identified as painful in man are almost certainly painful in companion animals.

Many oral pathologies in animals are present, untreated, for an extended period of time. If the patient is susceptible this may result in the development of chronic or neuropathic pain and increases the challenge associated with managing pain in the preoperative, operative and postoperative phases.

Pain sensation is highly specific to the individual in humans and this may be similar in our patients. Additional factors, such as stress, have also been associated with increased sensitivity to pain in humans. Different oral pathologies are likely to generate different levels of nociception. Periodontitis may cause mild discomfort/

sensitivity until the tooth becomes sufficiently mobile, then a chronic pulpitis is induced. Acute abscessation of an endodontically compromised tooth or conclusive pulpitis will result in severe acute pain. Osteonecrosis, diffuse mucositis associated with gingivitis stomatitis and neoplasia are likely to induce high pain levels but of a more chronic nature.

Identification of disease and the extent of likely treatment is key in assessing the need, type and duration for pain management. Patients will benefit from preoperative pain medication if they are exhibiting significant discomfort. Control of pain in patients affected by feline orofacial pain syndrome or presumed neuropathic pain may be appropriate before surgical intervention is undertaken as this could worsen the condition rather than resolve it. Patients suffering from gingivitis stomatitis are commonly affected by oesophagitis and will benefit from pain relief from antacid therapy.

A review of the decision making pathway for selection of analgesic agents the author uses for the operative phase of therapy will be presented. This will include the use of 'rescue' protocols, including the use of intraoperative bolus and continuous rate infusions.

Management of postoperative discomfort is critical in achieving a positive outcome for the patient and achieving high owner satisfaction. A review of postoperative pain protocols will be undertaken, and this will be linked to the extent of surgical intervention and the pathology treated. Additionally, the duration of postoperative pain management will be discussed, and specific cases provided where extended duration of postoperative pain therapy may be indicated.

KEY LEARNING OBJECTIVES

- Appreciation of acute and chronic pain and which drug classes are beneficial in their management
- Ability to identify patients in need of pre-emptive analgesia and patients with the potential to require rescue analgesia
- Expand the range of analgesic medications used in the postoperative period and review the duration of their use

MULTIPLE CHOICE QUESTIONS

1. Feline orofacial pain syndrome is most commonly reported in which breed?
(A) Burmese
(B) Domestic Shorthair

- (C) Persian
(D) No breed predilection
2. What receptors do ketamine and amantadine antagonize?
(A) Serotonin
(B) N-methyl-D-aspartate
(C) Dopamine
(D) Alpha-2
3. What percentage of patients who have undergone elective extractions for treatment of chronic gingivitis–stomatitis will require an extended period of pain management?
(A) 16%
(B) 26%
(C) 36%
(D) 46%

Dental trauma

Norman Johnston

Dental trauma is common in general practice. Approximately 27% of dogs and 10% of cats presented for vets have fractured teeth. Collisions, fights, falls and chewing hard objects are common causes. Dental trauma is painful and, in some cases, an emergency. Injuries to teeth require a detailed oral examination, probably anaesthetized or sedated to evaluate severity fully, as multiple teeth are often damaged. This should be included as part of a whole body review to ensure other health issues are identified and addressed as a priority.

This presentation will address the most common types of dental trauma and their possible treatment options from least to most severe.

ABRASION

Abrasion represents low-grade but chronically persistent mechanical trauma. The most common manifestation comes from constant and persistent carriage of tennis balls. Treatment of abrasion depends on whether the pulp is exposed or nearly exposed.

ATTRITION

Attrition is tooth wear caused by abnormal tooth-to-tooth contact. In carnivores, this is normally due to a malocclusion. Identified early this can be resolved but in many cases is seen when the patient is older when the attrition contact is no longer active.

NON-VITAL TEETH

This category describes trauma to pulp and discoloration of the crown. It may mean total pulp necrosis or reversible

pulpitis. It is most often seen after accidental collisions or catching hard objects. Pulpitis and pulp death are difficult to prove clinically in dogs. Investigation and treatment options will be discussed.

TOOTH FRACTURES

Tooth fractures can be uncomplicated (UCF) or complicated (CCF) crown fractures depending if the pulp is, or is not, exposed. Both require immediate treatment. UCF damages enamel and underlying dentine but does not result in pulp exposure. Investigation and treatment options will be described. CCF is defined as a fractured tooth with pulp exposure. CCF in dogs is prevalent at 27% but in cat canine teeth one study reported it to be as high as 54.8%. CCF always requires immediate treatment.

ROOT AND CROWN/ROOT FRACTURES

Trauma that involves both the crown and root can be complicated or uncomplicated. Each case needs to be assessed and treated on individual merit and be evaluated with radiographs from multiple projections. Fractures extending more than 4–5 mm subgingivally usually need extracted. Prognosis and treatment for root fractures depends on where the damage is. Regular radiographic monitoring is important to confirm treated teeth remain healthy.

TOOTH AVULSION/LUXATION/ SUBLUXATION

Avulsion is complete displacement of the tooth out of the alveolar socket. Luxation is partial displacement of the tooth. Subluxation refers to a slight increase in mobility in a horizontal direction only. Luxation and avulsion both represent dental emergencies. Advice to owners and treatment options will be described.

References available on request.

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