Clinical Commentary

Equine dental nerve blocks

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Keywords: horse; facial nerve blocks

Today’s equine practitioner, in providing routine and prophylactic care to horse owners, commonly performs veterinary dentistry. It is imperative that the veterinarian has a reliable knowledge of analgesia to reduce the level of pain/discomfort associated with some dental procedures, e.g. wolf tooth extraction.

Eliminating discomfort and expediting the time a procedure takes to complete is always at the forefront of any veterinarian’s mind when performing a procedure. This is especially true when performing standing procedures in the horse and important when performing dental procedures.

As standing dental procedures are becoming more common, the need to understand the anatomy of the horse’s head is paramount (Tremaine 2004a,b; Coomer et al. 2011; Ramzan et al. 2011). Equine dental nerve blocks (local anaesthesia) have been reviewed before but no mention of the complications that might arise has been reported in live horses (Lowder 1999a,b; Tremaine 2007; Staszyk et al. 2008; Bardell et al. 2010). Anecdotal reports of such complications to these nerve blocks are not uncommon. The authors of the accompanying case report (Caldwell and Easley 2012) are to be applauded for documenting these accurately and comprehensively, and drawing the practitioner’s attention to the consequences of these and the need for a practiced precise technique.

The intended procedure, along with the patient’s history, physical findings, temperament and the level of skill of the practitioner will determine the type, level and duration of anaesthesia each case will require. However, the accompanying paper (Caldwell and Easley 2012) are to be applauded for documenting these accurately and comprehensively, and drawing the practitioner’s attention to the consequences of these and the need for a practiced precise technique.

Topical anaesthetic agents may be used to desensitise gingiva and surrounding tissue with variable success. Local anaesthetic agents are required to desensitise the soft tissue and bone surrounding a tooth. The 3 most commonly used local anaesthetic agents are lidocaine, mepivacaine and bupivacaine, use of which depends upon the nerves being desensitised and the projected duration of the procedure. As demonstrated by Caldwell and Easley (2012), the selection of lidocaine for most dental nerve blocks is often the best choice.

Tremaine (2007) reported on 4 basic dental nerve blocks (maxillary, infraorbital, mandibular [inferior alveolar] and mental) that can be used to provide anaesthesia to the different parts of the equine head. Although commonly used by equine veterinarians, the infraorbital and mental are the 2 least commonly used of the 4 for dental procedures. The infraorbital nerve block is commonly reported in the literature as a diagnostic tool for headshaking/dental desensitisation; however, it has also been reported to be ineffective in some horses (Mills et al. 2002; Coomer et al. 2011). The mental nerve block requires the practitioner to infiltrate the canal to cause desensitisation of the caudal cheek teeth, and this block may also be ineffective. The potential for neuralgia from these 2 nerve blocks due to irritation of the nerve from the infiltration of the needle within the canal does not support their use in most horses.

Thus, the maxillary and mandibular nerve blocks are the 2 most effective nerve blocks to be performed during equine dental surgery, although complications have been reported in the equine literature (Tremaine 2007; Coomer et al. 2011). It is important that the veterinarian and client understand that complications may occur from any procedure, that the benefits outweigh the risks for the alleviation of pain and for hastening the procedure in the performance of equine dental procedures.

Caldwell and Easley (2012) do an excellent job of explaining the complications of a mandibular nerve block using mepivacaine and explaining the relevant anatomy. Tremaine (2007) also describes this block and the maxillary nerve block in detail for the reader’s review. In short, while dental nerve blocks are beneficial, the practitioner is encouraged to spend time with an experienced veterinary dentist prior to performing the procedures. It should be kept in mind that the precise duration of a nerve block is...
imprecise and that precautions should be taken post procedural, e.g. removing feed for 1–3 h.

To minimise complications from equine dental nerve blocks, the practitioner might consider using the lowest effective drug volume, withhold feed until a safe time has expired to ensure that none or minimal effects of the anaesthetic are remaining, abstain from doing multiple dental blocks or bilateral blocks and perform an oral examination after long procedures to ensure lingual sensitivity and movement prior to feeding.

Author’s declaration of interests

No conflicts of interest have been declared.

References


