FIRST-OPINION EXPERIENCE OF TREATING EQUINE DIASTEMATA

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Practice Notes

KNOWLEDGE of equine dental pathology and dental treatments has become increasingly reported in the veterinary literature.

Horse owners are also increasingly educated regarding dental matters, so they have higher expectations of what is involved in routine dental treatment. Although most first opinion equine practitioners routinely rasp horses' teeth, the following case of quidding and weight loss highlights the need for a full dental examination using a good light source and a mirror.

The horse presented was an eight-year-old, 16hh Connemara cross thoroughbred gelding, which had been purchased for riding club activities. As soon as the horse arrived on the yard and was fed hay, it was noticed the horse was quidding severely. This persisted despite trying different forms of roughage and, after three days, we were called to "do his teeth".

Quidding evidence

Upon arrival, it was obvious which horse was to be examined – there was a large amount of half-chewed food littering the space in front of its stable (**Figure 1** – evidence of quidding). A Hausmann gag was used to examine the mouth; no sedation was given at this stage. Surprisingly, it appeared the teeth had recently been rasped and there were no sharp enamel points or soft-tissue ulceration to be found. A mirror was used to examine for any other abnormalities that could cause the quidding. There were two small diastemata between the most caudal cheek teeth on both lower arcades. As this was the only abnormal finding, the horse was admitted to our clinic the following day for further investigation.

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The horse was sedated routinely using detomidine and butorphanol, and the mouth examined more thoroughly. The 310 and 410 teeth (Triadian numbering system) were rotated so the most rostral portion of the teeth were lying buccal to the caudal portion of the 09 teeth. This resulted in food packing into valvular diastemata between 309-310, 310-311, 409-410 and 410-411 (**Figure 2** – diastema with food packing). Although radiographs of the teeth placement would have been interesting, this was not carried out because of financial concerns.

Treating diastemata with periodontal disease seems to be very painful in horses, so I routinely give IV flunixin meglumine before starting treatment. The diastemata were all picked out using forceps and then flushed with dilute hibitane solution using a pressurised water pick system. Repeated sedation was necessary as the periodontal pockets were deep and severely inflamed, and the packed food material was tightly lodged.

In combination with routine sedation, the horse was given occasional, small IV boluses of diazepam to reduce tongue tone as low as possible, thereby reducing the horse's efforts to thwart picking out the food material. I only tend to use diazepam in the clinic, as the generalised loss of muscular tone can be very dramatic.

After the diastemata were all cleaned out, a probe was used to measure the pocket depths; the deepest was 15mm on the lingual aspect of the 410-411 diastema. I often initially treat diastemata with flushing alone, as in my experience, this usually has good results. Due to the depth of pocketing, and the owner's concern about repeated clinic visits, after drying the diastemata as much as possible, I packed them with dental impression material. The horse was then prescribed oral trimethoprim sulphonamide (TMPS) and suxibuzone for a 10-day period.

Once the horse woke from sedation, it was fed a small amount of wet hay, but was still found to be quidding severely. However, it was able to eat wet, hard feed much better so was sent home to be fed that and Readigrass. The owners were warned not to expect an immediate improvement and asked to provide a telephone update in 10 days.

The update did not yield good news. The horse was still quidding as profusely as before, but the owners were not keen to try more treatment. Two weeks later, there had been no further improvement and the horse had begun to lose significant body condition. It was readmitted, sedated and the diastemata re-examined. Frustratingly, as so often happens, the packing had fallen out and the diastemata were again filled with malodorous food material. The process of picking out and flushing out the diastemata was repeated, but was much easier, presumably because the food material had been present for a shorter period. Interestingly, there had not been any reduction in the depth of the periodontal pockets.

Figure 1. Half-chewed food is evidence of quidding.

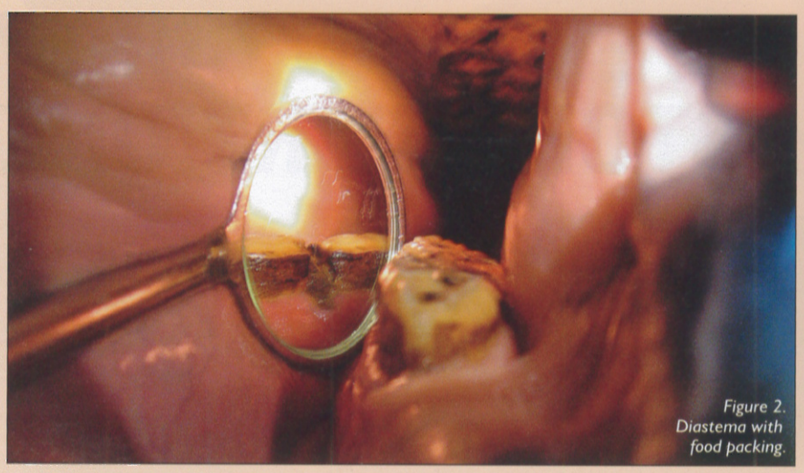

Figure 2. Diastema with food packing.

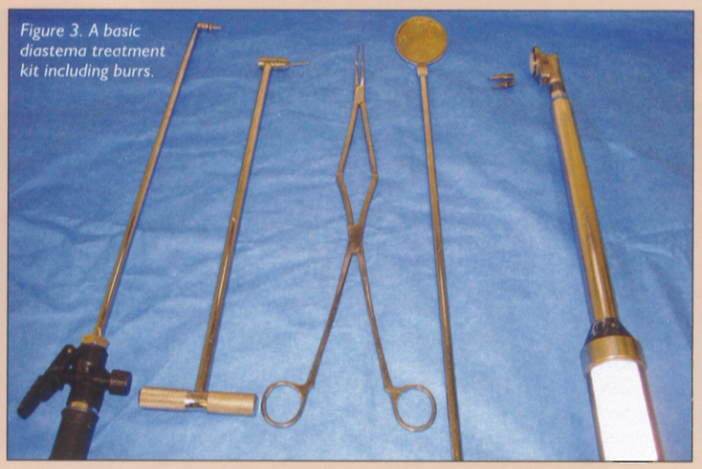

Figure 3. A basic diastema treatment kit including burrs.

As the packing had failed the first time, it was felt that a second attempt would be pointless. We opted to widen the diastemata using electrical burrs. This procedure always involves potential risk of entering the pulp cavities of the adjacent teeth and possible caries or tooth root abscessation in the future. There is also a risk of thermal necrosis, so care must be taken to use the burr for only a few seconds at a time in each location. Water from the water pick was used to cool the teeth occasionally. In the case of this horse, the widening was especially difficult as the most caudal diastemata were angled obliquely and the diastema burr is angled at 90 degrees to the head of the powerfloat (**Figure 3**).

Widening

Initially, the widening started with a narrow, conical burr on the lingual aspect of the teeth, then widening from the occlusal surface, and finally from the buccal aspect. Once this was widened with the narrow burr, a medium-sized conical burr was used to finish the widening process, resulting in an open diastema about 4mm wide.

When widening, it is important to remember the anatomy of the tooth pulp cavities – taking more tooth material from the rostral part of the tooth caudal to the diastema lessens this risk (Dixon, 2008). Care was taken to ensure the diastemata were equally wide from the occlusal surface right down to the gumline.

The diastemata between the 10 and 11 teeth were harder to widen due to the obliquity of the diastemata; it was very difficult to do this from the lingual or buccal aspects so the widening was mainly done from the occlusal surface. After widening, the caudo-lingual aspect of the 310 and 410 teeth had to be rounded as they were sharp and there was already ulceration on the lingual mucosa, presumably due to rubbing from food packed into the diastemata. Again, the horse was prescribed oral TMPS and suxibuzone.

After sedation, the horse was fed a small amount of wet hay. Amazingly, there was no quidding despite the presence of the large, deep and infected periodontal pockets. Follow-up telephone calls revealed the horse had responded very well and was continuing to eat wet hay normally – a lot less costly than Readigrass.

The horse returned to a normal body condition score and is successfully competing with its new owners. We have advised the owners to repeat the dental examination in three months. Although it would be beneficial to repeat the flushing of the newly opened diastemata in six weeks, it is hard to justify when the horse is eating normally.

Although this is not a textbook approach to diastemata treatment, I have found widening to be successful in those diastemata that are resistant to treatment with picking, flushing or packing. Information continues to be gathered and published about this common, but very painful, equine dental problem, and treatment approaches will probably continue to evolve.

References

Dixon P, Barakzai S, Collins N and Yates J (2008). Treatment of equine cheek teeth by mechanical widening of diastemata in 60 horses (2000-2006), *Equine Veterinary Journal* **40**: 22-28.

VICKY ROWLANDS graduated from the University of Edinburgh in 2003. After starting work in a mixed practice in Fife, she then specialised in equine work and now works at Ashbrook Equine Hospital. Vicky gained her Certificate in Equine Practice in 2009 and has special interests in orthopaedics and performance-related problems.