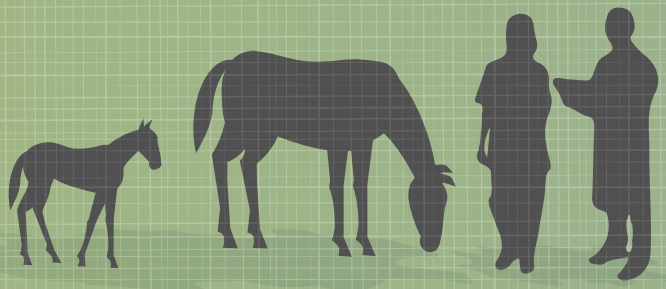
BEVA 2022 CONGRESS

7 - 10 Sept
ACC, Liverpool

Championing the Equine Vet

60th Handbook of Presentations



DENTISTRY

Chair: Henry Tremaine

LIVE STREAM ►

9.00

TMJ disease – how common is it?

Richard Reardon, *BVetMed(Hons) MVM PhD CertES(Orth) DipECVS(LA) DipEVDC(EQ) MRCVS*

The Equine Dental Clinic Ltd., Wimborne, Dorset, UK. Email: richardreardon.edc@gmail.com

The equine temporomandibular joint (TMJ) is a synovial joint between the temporal bone (composed of the mandibular fossa, the articular tubercle and the retroarticular process) and the mandible (condylar process). It is lined by fibrocartilage and is divided into two compartments: discotemporal and discomandibular (which were recently shown not to communicate in most normal joints [1]) by a fibrocartilaginous disc. The joint facilitates the equid masticatory cycle, with strong lateral grinding strokes. It also allows mastication for prolonged periods, with horses able to survive on low quality forage, browsing and eating for around 18 hours a day in some cases.

Diseases of the equine TMJ include many of the disorders affecting other synovial joints, including osteoarthritis, septic arthritis, subluxation, intra-articular disc tearing and neoplasia. When performing dental examination and treatments that necessitate opening the mouth with a speculum, sometimes for prolonged periods, it would seem sensible to consider the potential presence of TMJ disease. Indeed, a study has demonstrated evidence of TMJ inflammation following use of an open speculum for 60 minutes in comparison to use of a closed speculum [2].

Knowledge of the prevalence of diseases of the equine TMJ would help clinicians predict its presence. However, there are limited epidemiological data relating to TMJ disease in equids, with only a small number of case reports reporting TMJ disease. One larger study reported 'anatomical abnormalities' of the TMJ in 40% of 1018 horses undergoing computed tomography (CT) scans, suggesting TMJ changes may be quite common. Notably the horses included in the CT study were a select population (horses requiring a head CT) and were all asymptomatic; i.e., were not showing apparent clinical signs of TMJ disease. Another study evaluating associations between oral examination findings and CT appearance of the TMJ in 201 horses identified an association with age, with animals with abnormal CT findings being older than those with normal TMJs [3].

Despite the lack of epidemiological information in horses, considering the very high prevalence of TMJ disorders in people (80% prevalence reported in one review [4]), with the knowledge that horses can be affected by TMJ disease and that oral speculum use can result in TMJ inflammation, it would seem appropriate to consider the TMJ when performing dentistry. This author pays particular consideration to this when performing dentistry on older/geriatric horses and tries to minimise the length of time these animals have their mouths open, e.g., by staging longer procedures. In some cases, animals may demonstrate signs of worsened oral pain, such as dysmastication, following dental treatments, which could in some instances be caused by TMJ pain. Careful history taking to include determining response to previous dental treatment can be helpful in these cases.

References

1. Pimentel, K.L. and Carmalt, J.L. (2021) The frequency of communication between the synovial compartments of the equine temporomandibular joint: a contrast-enhanced computed tomographic assessment. *Front. Vet. Sci.* **8**, 17.
2. Pereira, T.P., Staut, F.T., Machado, T.S.L., Brossi, P.M., Baccarin, R.Y.A. and Michelotto, P.V. (2016) Effects of the oral examination on the equine temporomandibular joint. *J. Equine Vet. Sci.* **43**, 48-54.
3. Carmalt, J.L., Simhofer, H., Bienert-Zeit, A., Rawlinson, J.E. and Waldner, C.L. (2017) The association between oral examination findings and computed tomographic appearance of the equine temporomandibular joint. *Equine Vet. J.* **49**, 780-783.
4. Rugh, J. and Solberg, W. (1985) Oral health status in the Unites States: temporomandibular joint disorders. *J. Dent. Educ.* **49**, 398-405.