SESSION: Current methods of pain assessment/scoring

The Horse Grimace Scale (HGS): past, present and future challenges

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Pain in horses is a critical welfare concern leading to considerable suffering and distress. Using valid assessment methods to identify pain in horses is of fundamental importance not only identify when pain occurs but for the correct use of analgesic treatment; however, reliable pain recognition is still difficult as many currently available scales are non-specific, unreliable and/or impractical when applied by equine clinicians. The Horse Grimace Scale (HGS) [1], a facial-expression-based coding system, includes six Facial Action Units (FAUs): stiffly backwards ears, orbital tightening, tension above the eye area, prominent strained chewing muscles, mouth strained and pronounced chin, and strained nostrils. Each FAU is scored on a 3-point scale (0-2), with zero indicating that the assessor is confident that the action unit is not present, one indicating that it is moderately present, and two indicating that the assessor is confident that the action unit is obviously present. The HGS has been demonstrated to be a potentially effective tool for assessing pain associated with surgical castration [1,2] and acute laminitis in horses at rest [3,4], thus confirming that it is pain-specific [5], non-invasive and easy to learn. Furthermore, HGS scores of horses with acute laminitis were positively correlated with changes in other potential pain and distress biomarkers (miR-23b-3p, miR-145-5p and miR-200b-3p) [4]. For these reasons, the Horse Grimace Scale offers a promising scale for equine clinicians to apply in routine practice to detect pain in horses. However, there are still limitations and challenges to the use of HGS in routine clinical practice that should be addressed.

A review of the HGS studies, starting from the development to most recent unpublished data (efficacy of training of new assessors and convergent validation with biomarkers) will be presented, highlighting the conceptual and methodological issues we have faced, as well as discussing the advantages and future challenges of using facial expression as method of pain assessment in clinical practice.

References

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