Poster presentations

Comparison of different Clinical Metrology Instruments in dogs with osteoarthritis

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OBJECTIVES

To compare the scores obtained with four Clinical Metrology Instruments (CMI) in dogs with bilateral hip osteoarthritis (OA).

METHODS

Three hundred responses (n = 300) to the Canine Brief Pain Inventory (CBPI, divided in pain severity score — PSS

and pain interference score — PIS, the Liverpool Osteoarthritis in Dogs (LOAD), the Canine Orthopedic Index (COI, with four domains: stiffness, gait, function and quality of life — QOL) and the Hudson Visual Analogue Scale, were compared. For each animal, simultaneous responses to all CMI were obtained. In the cases of the CBPI and COI, respective sections were considered, as the overall score for COI. Results were compared with Spearman correlation and a Huynh-Feldt correction tests.

RESULTS

All other scores showed a negative correlation with HVAS, particularly PSS (–0.81), PIS (–0.83) and LOAD (–0.71). PSS and PIS showed a good correlation with all other scores, but particularly LOAD (0.80 and 0.82) and COI (0.80 and 0.82). LOAD scores had high correlation with all scores, especially COI (0.91) and its dimensions (>0.88). COI dimensions also showed good correlation comparing one to another, particularly stiffness and gait.

STATEMENT (CONCLUSIONS)

Scores of different CMI showed good correlation amongst themselves. Still, some variations were observed which might traduce that different CMI capture different aspects of OA.

Simple spatio-temporal gait analysis is not better than the human eye

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OBJECTIVES

Visual gait analysis suffers from subjectivity, and it is difficult to compare lameness grades between clinic visits and between veterinarians, but objective spatio-temporal analysis is generally restricted to the laboratory setting. Could simple video analysis offer a more objective and repeatable method of evaluation for mild grades of lameness in clinics?

METHODS

Video recordings obtained prospectively from 58 dogs using a standardised protocol were analysed using freely available software to determine ratios of stance and

swing times. Captured still images were used to calculate symmetry ratios of head, shoulder and pelvic height between left and right limbs. Analysis time was recorded to assess practicability.

RESULTS

On clinical evaluation, 37 dogs were sound and 21 dogs were lame (9 forelimb, 12 hindlimb). The majority of lame dogs were graded as 1/5 or 2/5: none exceeded 3/5. On average, video recording took 7 minutes, stance/swing time analysis took 10 minutes, and height-ratio calculation took 19 minutes per dog. Measurement repeatability was good. Only the symmetry ratio for head height was significantly different between sound and forelimb lame dogs (p = 0.001), but graphical assessment indicated this was skewed by the most lame dogs.

STATEMENT (CONCLUSIONS)

While the described methods are simple and cheap, the simple spatio-temporal measures tested here could not discriminate between sound and mildly lame dogs (for which the need for such measures may be considered greatest), and busy clinicians may find the time requirements impractical. The veterinarian's eye, aided by video playback, remains the most sensitive lameness detection tool in clinical practice.

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