Poster presentations

staining intensity under light microscopy, using a 0–3 scale by two independent scorers and objective quantification using an image-processing program. Staining intensity was compared between groups using T-testing.

RESULTS

An immunohistochemistry protocol for EHD 3&4, moesin and VEGF staining was successfully optimised for kidney tissue from dogs and cats. Expression of VEGF was significantly increased in DC ($P=0.016$) and GC ($P=0.028$) compared to NC. Moesin expression was also significantly

increased in GC compared to NC ($P=0.038$). No significant difference in expression of EHD 3&4 was found. There was no significant difference in protein expression between DD and GD.

STATEMENT (CONCLUSIONS)

Increased VEGF and moesin expression in DC and GC may suggest glomerular endothelial cell fenestration number is changed in these diseases thus affecting renal filtration function. The non-significant results in dogs could be due to lack of an appropriate control group.

Network analysis of multiple brain morphometric features in dogs to isolate key driving factors for syringomyelia

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OBJECTIVES

Syringomyelia (SM) is an extremely painful condition that commonly affects the Cavalier King Charles Spaniel (CKCS) and represents one of the most important welfare issues currently present in veterinary neurology. Much controversy exists surrounding the development of SM; historically, diagnosis has focused on Magnetic Resonance Imaging (MRI) features of the spinal cord and Chiari-like malformation (CLM) at the skull-neck junction, overlooking potentially relevant features of the brain. This study set out to test whether any MRI-derived

morphometric features of the brain may explain the predisposition of dogs to SM.

METHODS

An unbiased approach was taken using network analysis software (Miru) to evaluate enrichment within 8,432 data points, incorporating clinical data and blinded retrospective measurements of brain MRI features in 246 dogs, including 22 CKCSs.

RESULTS

Key preliminary findings included a significant correlation between brain ventricle morphometry and breed type in terms of length of the skull. CKCS dogs clustered independently based on median age at MRI, brain length-to-volume ratio, cerebellar volume and sulcus depth. To date, this study has generated the most comprehensive analysis of MRI-based brain morphometry in dogs, highlighting candidate measures to explore further as putative drivers of SM.

STATEMENT (CONCLUSIONS)

Preliminary analysis has clustered brachycephalic breeds on the basis of ventricular morphology, and a proportion of CKCS dogs due to a combination of factors, including ventricular morphology. Further analysis of this data is ongoing and will focus on parameters that isolate CKCS dogs independently of features associated generally with brachycephaly and parameters that isolate dogs with SM irrespective of breed.