STATEMENT (CONCLUSIONS)

This study provides vital information for veterinarians, breeders and owners of CKCS about common presentations of syringomyelia and other neurological diseases to allow for earlier recognition of these potentially painful

disorders. It concludes that syringomyelia is the most prevalent neurological disease in referral practices and emphasizes the frequency of pain associated with neurological disorders, but when compared to previous studies, it may be underdiagnosed in first opinion practices.

Rostral skull changes in Cavalier King Charles spaniels with Chiari-like malformation and syringomyelia

Eleonore Dumas¹, Susan Penny Knowler¹, Felicity Stringer², Clare Rusbridge²

- 1 School of Veterinary Medicine, Faculty of Health & Medical Sciences, University of Surrey, Guildford, United Kingdom
- 2 Fitzpatrick Referrals, Godalming, United Kingdom

OBJECTIVES

Chiari-like malformation (CM) and secondary syringomyelia (SM) have proven associations to multiple morphological traits of the caudal cranium and cervical spine in Cavalier King Charles Spaniels (CKCS). Since brachycephaly increases risk for disease, this study focused on the morphology of the rostral skull and forebrain and aimed to identify physical features associated to development of CM associated pain (CM-P) and SM with a more severe phenotype.

METHODS

Analysis of 12 measurements (11 lines and 1 angle) taken on T2 weighted midsagittal MRI of the skull and cervical spinal cord of 66 CKCS enabled the comparison of 3 phenotypic groups: dogs without SM or CM-P (control group; n = 11), dogs with CM-P only (n = 15), dogs with clinically severe CM/SM (syrinx transverse diameter ≥ 4 mm and clinical signs relating to SM; n = 40).

RESULTS

SM-affected CKCS had an increased height of the cranium ($p = 0.028$) and reduced depth of the stop ($p = 0.006$) compared to controls. SM-affected CKCS also had a significant reduction in height of the nasal cavity compared to CM-P ($p = 0.014$). There were 2 additional significant traits comparing dogs with and without SM; SM affected dogs had a more ventral orientation of the olfactory bulbs ($p = 0.014$) and shorter distance between basicranium and hard palate ($p = 0.031$).

STATEMENT (CONCLUSIONS)

Dogs with symptomatic CM/SM are more likely to have brachycephalic features of the rostral skull with "midface" hypoplasia similar to craniosynostosis Crouzan syndrome. This not only enhances our understanding of the disease and "at risk" head conformation but could also impact assessment of MRI and disease diagnosis.

Unusual clinical presentation of dystrophin-deficient feline muscular dystrophy in the UK

Aldara Eiras-Diaz, Jessica Florey

Dick White Referrals, Six Mile Bottom, United Kingdom

OBJECTIVES

Dystrophin-deficient feline muscular dystrophy is a rare myopathy caused by absence of dystrophin, a large protein found in cardiac and skeletal muscles. The majority

of previously reported cases have presented with generalised muscle hypertrophy and overt gait abnormalities.

METHODS

An eight month old male neutered domestic short hair was referred for further investigation of a four day history of regurgitation and tongue lesions. Multiple non-painful raised white plaques were visualised on the tongue. Mild pelvic limb stiffness and plantigradism was detected. Cranial nerves were assessed to be normal.

RESULTS

Moderately increased ALT, AST and markedly raised Creatine Kinase were documented. Thoracic radiographs revealed severe oesophageal dilation, cardiomegaly, scalloped diaphragm and sternal malformation. Tongue lesion histology revealed calcinosis circumscripta. These features raised the suspicion of feline muscular dystrophy.

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Poster presentations

Further investigations were declined given the poor prognosis and the patient was humanely euthanised.

Post-mortem histopathology exhibited severe myofiber diameter variability with degenerative changes and prominent calcific deposits in the tongue and diaphragm. Similar findings were detected in multiple skeletal muscles.

Generally, fresh or frozen samples are needed for immunohistochemical investigations. An alternative immunohistochemistry technique (HRP method) using anti-DYS1, DYS2, DYS3, α -sarcoglycan and γ -sarcoglycan

antibodies in formalin-fixed samples was performed. The negativity for dystrophin confirmed the diagnosis of feline muscular dystrophy.

STATEMENT (CONCLUSIONS)

An unusual clinical presentation of feline muscular dystrophy is described. This condition should be considered in cats presenting with regurgitation and tongue lesions. The HRP method can be used in formalin-fixed muscle samples to confirm the diagnosis.

Comparison of outcome of dogs with thoracolumbar spinal injuries based on treatment and severity of neurologic status

Panagiotis Kokkinos¹, Georgios Kazakos², Nikitas Prassinos², Michael Patsikas², Leonidas Panagiotis Ntioukas³

¹ Animal Health Trust, Lanwades Park, Kentford, Newmarket, Suffolk CB8 7UU, United Kingdom

² Companion Animal Clinic, School of Veterinary Medicine, Aristotle University of Thessaloniki, Thessaloniki, Greece

³ Department of Statistics, Athens University of Economics and Business, Athens, Greece

OBJECTIVES

To retrospectively compare the outcome of dogs with fractures/luxations of the thoracolumbar spine based on neurologic status and treatment method.

METHODS

In our study period, 53 dogs with injury of the thoracolumbar spine and a recorded outcome were enrolled.

Neurologic status was classified in a 5-grade scale; an additional grade ("grey zone") introduced between paraplegic cases with (grade 4) and without (grade 5) nociception and included subjects with reduced, but not absent, deep pain perception. The statistical models used for the purposes of this study aimed to reveal useful insights about the variables that affect final clinical outcome the most. Additionally, the distribution of incidents between each possible level of neurologic grade, final clinical outcome and treatment were examined and tested independently. The R software was used for the statistical analysis and a value of $p < 0.05$ was considered significant.

RESULTS

The neurologic status was the only statistically significant variable affecting outcome. No other variable or comparison revealed a statistically significant result. Furthermore, the newly introduced grey-zone showed to have a trend towards the less severe cases (grade 1 to 4) regarding treatment, whereas a trend towards the most severe cases (grade 5) was shown regarding outcome.

STATEMENT (CONCLUSIONS)

The severity of neurological status affects the outcome. Cases classified in the grey zone had similar outcome to the severe cases (grade 5), despite being treated in a pattern similar to the milder cases (grades 1 to 4). Concluding, in severe thoracolumbar syndrome the reduced but not absent deep pain perception did not significantly improve outcome of affected dogs.

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