Oral presentations

2D quantification and characterisation of the spinal cord dorsal horn neuronal population in Cavalier King Charles Spaniels with syringomyelia

Zoë Nalborczyk¹, Javier Salguero¹,
Fernando Constantino-Casas², Penny
Watson², Clare Rusbridge^{1,3}

- 1 School of Veterinary Medicine, University of Surrey, Guildford, United Kingdom
- 2 Department of Veterinary Medicine, University of Cambridge, Cambridge, United Kingdom
- 3 Fitzpatrick Referrals Orthopaedics and Neurology, Easing, United Kingdom

OBJECTIVES

Syringomyelia is characterised by fluid-filled lesions in the spinal cord. A classic sign of severe syringomyelia is 'phantom scratching', the pathogenesis of which is unclear. It has been associated with a large dorsolateral syrinx at the level of the C3 and C4 spinal segments with damage to the superficial dorsal horn. We compared populations of inhibitory and excitatory interneurons in

the dorsal horn of the middle cervical spinal cord segments between 'scratchers' and 'non-scratchers' to further investigate this.

METHODS

Using image analysis software and immunohistochemistry the constituents and neuronal populations of the middle cervical spinal cord segments of the dorsal horn for four cohorts were identified and compared. These four cohorts included dogs with symptomatic syringomyelia and phantom scratching, dogs with symptomatic syringomyelia, dogs with asymptomatic syringomyelia and dogs with neither syringomyelia nor phantom scratching.

RESULTS

'Scratchers' had significantly larger central cavities than 'non-scratchers'. There were significant differences in the distribution of inhibitory interneurons in the left and right dorsal horn of the spinal cord between the four cohorts. There were no significant differences in excitatory interneuron distribution.

STATEMENT (CONCLUSIONS)

The results suggest there are differences in the number of inhibitory interneurons in one or more laminae of the left and right dorsal horn between cohorts but does not identify in which lamina(e) the differences lie. Further complex statistical analysis and methodology alteration are required to grasp the true significance of these results in relation to the development of phantom scratching in dogs with severe syringomyelia.

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Behavioural and clinical signs of Chiari-like malformation and syringomyelia in Cavalier King Charles Spaniels

Clare Rusbridge

Fitzpatrick Referrals, Godalming, United Kingdom
University of Surrey, Guildford, United Kingdom

OBJECTIVES

Chiari-like malformation (CM) and syringomyelia (SM) are associated with behavioural signs of pain and scratching. However there is poor data on which of these

non-specific signs are the most useful for indicating symptomatic disease and whether associated with CM or SM or both.

METHODS

The medical records of Cavalier King Charles Spaniels presenting with history of behavioural signs of pain and CM with or without SM were analysed. Dogs with other causes of pain or scratching were excluded. Maximum transverse diameter of the syrinx or central canal dilation (CCD) was measured and the dogs were divided into no SM (16 dogs); CCD<2 mm (12 dogs); SM 2–3.9 mm (23 dogs); SM≥4 mm (50 dogs).

RESULTS

The most common signs in all groups was vocalisation (spontaneous, changing head position, on rising, when lifting dog from under the sternum); scratching/rubbing the head/ears; unwilling or difficulty jumping/doing stairs; hyperaesthesia to palpation of the cervical, thoracic and/or lumbar spine; decreased exercise ability; lethargy and sleep disturbance. Phantom scratching,

scoliosis, weakness and postural deficits were only seen in the SM $\geq$ 4 mm group.

STATEMENT (CONCLUSIONS)

This study has limitations due to its retrospective nature but provides data for planning future clinical trials.

Results suggest CM with or without SM may present with behavioural signs of pain particularly associated with changes in head position. Dogs may scratch or rub their head/ears and examination may suggest spinal hyperaesthesia. SM specific signs tend to be associated with larger syringes and likely damage of the spinal cord.

Iatrogenic Pourfour du Petit syndrome – common but transient

Pip Boydell

TransEuropa Associates Ltd, Manchester, United Kingdom

OBJECTIVES

Pourfour du Petit syndrome, signs of sympathetic stimulation of the eye and adnexa associated with irritation of the nerves of the sympathetic pathway to the eye, has been reported in cats following flushing of the middle ear. A prospective study was performed in an attempt to ascertain an approximate incidence of this iatrogenic condition.

METHODS

Cats presented with signs suggestive of unilateral middle ear disease with no evidence of associated peripheral

neuropathies underwent myringotomy and gentle irrigation of the affected middle ear under general anaesthesia. Following the procedure they were maintained in sternal recumbency and the eyes were examined by distant direct ophthalmoscopy at 5 minute intervals for at least 30 minutes and any signs of sympathetic innervation abnormality were recorded. Follow up examination was performed 1 week later.

RESULTS

50 cats were included in the study, 18 showed signs of stimulation of the oculosympathetic supply (relative mydriasis and exophthalmos). In 15 of these the signs resolved within 30 to 60 minutes. 2 later showed signs of Horner's syndrome that resolved within 4 weeks and in 1 cat the Pourfour du Petit signs persisted for 5 days.

STATEMENT (CONCLUSIONS)

Though of minimal clinical significance Pourfour du Petit syndrome appears to be common following flushing of the cat middle ear. However the changes are usually of short duration and, in this study, led to no permanent abnormality. One would expect the signs to be reported, occasionally, by those monitoring recovery from anaesthesia of such patients.

Clinical characteristics, imaging findings and outcome after medical and/or surgical management of 23 cats with intracranial empyema

Sophie Martin, Elsa Beltran

Royal Veterinary College, RVC, Hertfordshire, United Kingdom

OBJECTIVES

Feline intracranial empyema is infrequently reported in veterinary literature, to date the largest study is based on

a population of 11 cats with otogenic infection. The aim of this study is to review a larger population of cats with intracranial empyema from multiple aetiologies and document their signalment, imaging findings, treatment protocols including medical and/or surgical management and compare outcomes.

METHODS

Cases presenting to a single referral centre over a ten-year period with compatible history, neurological signs and imaging findings consistent with intracranial empyema were reviewed retrospectively.

RESULTS

Twenty-three cats met the inclusion criteria. Advanced imaging (CT and/or MRI) was performed in 22/23 cats, one case was diagnosed via ultrasound. Ten cases underwent medical and surgical management combined, ten underwent solely medical management and three were euthanised at the time of diagnosis. Short-term outcome showed that 90% of surgically managed and 80% of medically managed cats were alive at 48 hours