spaniels (CKCS) with CM and SM have smaller and more ventrally orientated OB with rostral forebrain flattening. We compared OB size, angulation between the OB and the hard palate and two measurements that represent flattening of the rostral forebrain from 5 phenotypic groups

METHODS

Medical records from a 2 year period were searched for CKCS that had brain magnetic resonance imaging (MRI) and neurological assessment. The cohort was divided as follows: SM with phantom scratching (15 dogs); clinical SM (e.g. pain) but no phantom scratching (17 dogs); behavioural signs of pain with CM but no SM (25 dogs); CKCS with no SM and no behavioural signs of pain or scratching (13 dogs). In addition medical records were searched for dogs in the 5-15kg weight range with normal brain MRI (19 dogs including 5 brachycephalic). The MRI studies were anonymised, randomised and viewed in EFILM™. 5 measurements were taken from the T2W mid-sagittal brain MRI: the OB length and height (product represented OB size), angulation between the dorsal OB and the frontal lobe (bottom angle), angulation between the frontal and parietal lobes (top angle) and angulation between the OB and hard palate (OB angle).

RESULTS

There was a trend for decreasing mean OB size with increasing

CMSM phenotype severity (SM-scratchers < SM non-scratchers < CM-pain < CKCS-control < other breed control). However post hoc analysis, Bonferroni, indicated that only "other-breed-control" was significantly different from the CMSM groups but was not significantly different from "CKCS control". ANOVA analysis for OB, bottom and top angle did not reveal a statistically significant difference between the groups however for OB angle there was an apparent separation between the control and CMSM groups suggesting a trend towards more ventrally orientated OB with increasing CMSM phenotype severity.

CONCLUSION

This study suggests that CM should be considered a more global brain and skull conformational disorder with features of extreme brachycephaly including smaller more ventrally orientated OB however further work is required and the measurement technique has been refined for future studies.

We recommend that future studies into MRI conformation of CM and SM uses rigorous phenotyping based on clinical signs and age.

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The impact of hypoxia on T regulatory cells in canine cancer and inflammation

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The presence of hypoxia and regulatory T cells (Tregs) in cancer has been associated with a poorer prognosis through treatment resistance and increased malignancy in some tumours. However, the precise relationship between

Tregs and hypoxia in canine tumours has still to be explored. The aim of this study was use immunohistochemistry to detect expression of glucose transport-1 (GLUT1) and FoxP3 as respective markers for hypoxia and T regulatory cells, in benign and malignant tumours of different histotypes. Lymph node (LN) samples categorised as tumour-draining, metastatic or reactive due to inflammation were also examined. Both regulatory T cell and GLUT1 expression varied between tumour histotypes and LN types. There was an increased prevalence of FoxP3+ cells with increased GLUT1 labelling in all tumour and LN types, but metastatic LN results were confounded by strong GLUT1 labelling of some metastatic cells. This result suggests a possible link between hypoxia and Tregs in cancer and inflammation. Further research using additional markers for hypoxia and Tregs and a greater number of samples is warranted to explore potential novel therapeutic targets in the future.

Pilot study investigating the association between road traffic accidents and *Toxoplasma gondii* seroprevalence in cats

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STUDY AIM

It has been demonstrated that the parasite *Toxoplasma gondii* is able to alter the behaviour of rodents to show reduced

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