Oral presentations

Owner reported breathing scores, accelerometry and sleep disturbances in brachycephalic and control dogs

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OBJECTIVES

To compare daily physical activity, and length and quality of sleep in between brachycephalic dogs and a control population.

METHODS

Brachycephalic and control (non-brachiocephalic) client owned dogs were prospectively enrolled. Dogs wore

accelerometers to determine length of activity and sleep in a 24-hour period. Owners completed a questionnaire regarding typical daily activity and sleep patterns, and an "owner reported breathing (ORB) score". One hour of normal home sleep was recorded for each dog, and an observer subjectively quantified the dogs sleep quality.

RESULTS

Twenty brachycephalic dogs and 15 control dogs were included. There was no difference between age and weight of the dogs. Owners reported brachycephalic dogs to be significantly less active ($p = 0.022$) and a higher ORB score ($p < 0.001$) compared to control dogs. ORB score was positively correlated with increased sleep disturbances ($r^2 = 0.47$). There were no differences in active and sleep times based on accelerometry between groups.

STATEMENT (CONCLUSIONS)

Brachycephalic dogs have more disturbed sleep patterns, which may have negative implications on their welfare, but there were no differences in activity time or number of hours of sleep between brachycephalic and non-brachycephalic dogs. There is evidence of brachycephalic obstructive airway syndrome (BOAS) as assessed by ORB score is correlated with poorer sleep quality, suggesting that reduced sleep quality is part of BOAS, and owners may underestimate disturbed sleep patterns or may perceive disturbed patterns of sleep to be normal for brachycephalic dogs.

Assessment of hair cortisol concentration as a marker of chronic stress in dogs with congenital portosystemic shunts

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OBJECTIVES

To measure hair cortisol concentration as a measure of physiological stress in dogs with congenital portosystemic shunts (CPSS) compared with healthy control dogs.

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METHODS

Dogs with CPSS undergoing surgery and healthy dogs undergoing routine neutering were prospectively recruited to the study. Hair removed during routine surgical preparation was collected. Cortisol was extracted from hair samples using methanol and a salivary enzyme immunoassay kit was used to measure the concentration. Cortisol concentration was compared between CPSS and controls using a Mann-Whitney U test ($P < 0.05$).

RESULTS

Thirty-five dogs with CPSS (29 extrahepatic and six intrahepatic) and eight control dogs were included. The median age of CPSS dogs was 12 months (range 3–77) and the median age of control dogs was 12.5 months (6–49). The median cortisol concentration in the CPSS group was 0.405mg/dl (0.07–12.22) compared with that of the control dogs at 0.17mg/dl (0.06–0.76). This difference was statistically significant ($P = 0.004$). Six dogs had follow-up fur samples taken, five prior to a second surgery following partial shunt ligation. The cortisol concentrations increased in three dogs and decreased in three dogs.