Oral presentations

Lymphosarcoma in Border collies: a retrospective analysis and possible breed predisposition

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OBJECTIVES

To review outcome of chemotherapy in Border collies with lymphoma and assess for a possible breed predisposition.

METHODS

Medical records of all dogs diagnosed with lymphosarcoma (2009–2017) were reviewed. Breed data were compared to the overall hospital population using a Chi-squared test and Odds ratio. Data collected from the Border collie lymphoma population included signalment, anatomical location, immunophenotype, treatment and survival times.

RESULTS

29,321 dogs were referred during the study period; 940 (3.2%) were Border collies and 981 (3.3%) Boxers. Of 328 dogs diagnosed with lymphosarcoma, 23 (7%) were Border collies and 22 (6.7%) Boxers. Significantly more Border collies ($P=0.0001$, $n=23$ OR:2.3165; 95%CI: 1.5085–3.5573) and Boxers ($P=0.0008$; $n=22$ OR:2.1087; 95%CI: 1.3615–3.2658) were present within the lymphoma population in comparison to the hospital population, suggesting both Border collies and Boxers were over represented.

Of 23 Border Collies, 21 (87%) had multicentric lymphosarcoma, one alimentary, and one primary CNS. Thirteen cases (56.5%) were stage V, six (26%) stage IV and four (17.5%) stage III. Eleven dogs were substage a and 12 substage b. 11/14 (78.6%) cases were B-cell, 3/14 (21.4%) T-cell, and 9 unknown. Date of death was available for 16/20 high-grade MLSA cases, with 3 patients alive at time of analysis. Median survival time (MST) was 87days (all dogs) or 251days (chemotherapy treated); this was not significantly different ($P=0.2369$).

STATEMENT (CONCLUSIONS)

Border Collies were overrepresented in this study, suggesting a possible breed predisposition as for Boxers. MST for border collies receiving chemotherapy was comparable to previously published data.

Transitions in tau protein status in dogs with brain tumours

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OBJECTIVES

Ante-mortem diagnosis for canine brain tumours is limited. Tau protein is highly expressed in the brain and undergoes modifications that can be diagnostically useful. We hypothesised that canine brain neoplasia would be associated with a shifted tau status. Our objectives were to quantitatively evaluate tau status in

post-mortem canine brains, and compare tau status in dogs with, and without, brain tumours.

METHODS

Brain tissue sections were selected from 15 client-owned dogs euthanased on welfare grounds, with written informed consent, ethics approval, and pathologist-assigned diagnosis ($n=5$ brain neoplasm, $n=5$ alternative brain pathology, $n=5$ normal brain). Representative sections of lesion core, lesion edge, and grossly normal tissue were immunohistochemically labelled for tau isoforms and phosphorylated tau. Whole slides were digitally scanned and 5 fields of view ($\times 20$) were selected from each scan by one blinded observer. Tau-positive cells were quantified in ImageJ, with multi-comparison analysis in R, normalizing for age and post-mortem interval.

RESULTS

Phosphorylated tau was increased, and 3-repeat tau expression decreased, in lesion cores relative to normal tissue ($p<0.01$). 3-repeat tau expression was higher at lesion edges in dogs with brain tumours versus other lesions ($p<0.005$). In grossly normal tissue, expression of