Magnetic resonance imaging of the brain in dogs with portal vein hypoplasia

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OBJECTIVES

To determine if there are T1-weighted signal hyperintensities in the lentiform nucleus on magnetic resonance imaging (MRI) of dogs with portal vein hypoplasia, suggestive of hepatic encephalopathy.

METHODS

The medical records from 2014 to 2018 were retrospectively reviewed for dogs diagnosed with portal vein

hypoplasia on histopathology, with no macroscopic shunt. Dogs were included if they had also had a brain MRI scan performed. Control dogs with a diagnosis of idiopathic epilepsy that had a brain MRI scan were age and breed matched. T1-weighted MRI signal intensity of the lentiform nucleus was quantified by a blinded observer, using a previously described technique. The mean lentiform nucleus index was compared between groups with an independent samples T-test.

RESULTS

In total 6 portal vein hypoplasia and 6 control dogs were identified. The mean lentiform nucleus index for portal vein hypoplasia dogs was 0.925 (standard deviation $\pm$ 0.084) and for control dogs was 0.902 (standard deviation $\pm$ 0.060). This difference was not statistically significant ($p = 0.601$).

STATEMENT (CONCLUSIONS)

This study did not find evidence of lentiform nucleus changes on MRI as previously described in dogs with congenital portosystemic shunts. Portal vein hypoplasia may not result in hepatic encephalopathy, or alternatively this may be less severe than in dogs with macroscopic shunts, however larger studies are required to further establish this.

Breed, age and gender distribution of canine hepatobiliary disease in the United Kingdom

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OBJECTIVES

Canine hepatobiliary disease is common. However, data determining disease prevalence and breed, age and gender predispositions of affected dogs in the UK is lacking. The primary objective was to identify the frequency of canine hepatobiliary disease in a UK population of dogs and consequently determine breeds at increased risk of hepatobiliary disease based on age and gender.

METHODS

Histopathology reports from canine liver tissues submitted to a commercial laboratory between December 2012

and February 2018 were retrospectively evaluated. Each diagnosis was categorised according to World Small Animal Veterinary Association standards, and recorded along with breed, age and gender. Cases with incomplete data or no definitive diagnosis were excluded. Breed predisposition was calculated by odds ratios and 95% confidence intervals against a UK-based control population of microchipped dogs.

RESULTS

In total 5663 canine liver samples were assessed with 271 excluded. The most frequent histologic diagnoses were reactive hepatitis ($n = 901$), chronic hepatitis ($n = 856$); reversible hepatocellular injury ($n = 718$); hepatocellular neoplasia ($n = 660$); disorders of impaired hepatic perfusion ($n = 439$); nodular hyperplasia ($n = 428$); gall bladder disease ($n = 314$); metastatic neoplasia ($n = 181$); neutrophilic cholangitis ($n = 168$) and hepatocellular death ($n = 132$). Breed, age and gender predispositions were calculated within several of these categories.

STATEMENT (CONCLUSIONS)

This is the first study to document the histopathological frequency of hepatobiliary diseases in a large cohort of dogs in the UK, as well as novel breed, age and gender predispositions. This data may help increase the index of suspicion of a particular disease in the absence of a biopsy-confirmed diagnosis.

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