Difference of eccentrocyte numbers between healthy Greyhounds and non-sighthound breeds. An observational study

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OBJECTIVES

Haematological differences between Greyhounds and non-sighthound breeds are well documented in the veterinary literature including higher haematocrit, haemoglobin concentration, erythrocyte count and MCV/MCHC values. It is the author's clinical observation that eccentrocyte numbers are higher in healthy Greyhounds compared to other breeds. This study aims to assess whether healthy Greyhounds have increased eccentrocyte numbers compared to non-Greyhound breeds.

METHODS

A prospective blinded study was conducted evaluating 45 healthy dogs. Twenty-five dogs were Greyhounds and 20 non-sighthound breeds were used as a control population. Dogs were eligible for the study if the history, clinical examination, haematology (with the exception of eccentrocyte count) and biochemistry were unremarkable. Fresh blood smears were reviewed for each dog by a board certified clinical pathologist and the number of eccentrocytes per 10 high power fields (hpf) recorded. Samples were excluded if significant blood smear abnormalities were present (acantocytosis, schistocytosis, polychromasia) (n=5). Data was analysed with D'Agostino and Pearson test to assess normality of distribution and a Mann-Whitney U test to evaluate differences in eccentrocyte numbers between the two groups. $P < 0.05$ was considered statistically significant.

RESULTS

The Greyhound and control group were comparable with respect to age, sex and neuter status. Median eccentrocyte numbers were significantly higher in Greyhounds (median 6/10 hpf; range 1–22) compared to non-sighthound controls (median 1/10hpf; range 0–6) ($P < 0.0001$).

STATEMENT (CONCLUSIONS)

This study is the first to describe increased eccentrocyte numbers in healthy Greyhounds as a normal variation for this breed. The clinical significance of this findings still needs to be elucidated.

Evaluation of immunosuppressive regimens in the treatment of canine idiopathic immune-mediated polyarthrititis (IMPA)

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OBJECTIVES

IMPA is a commonly diagnosed disorder, however little evidence is available to facilitate decision-making regarding optimal treatment. This study compared clinical response, incidence of relapse and cumulative prednisolone exposure in dogs treated with prednisolone

monotherapy (group PM) and multimodal immunosuppressant therapy (group MIT).

METHODS

Medical records (2006–2017) of dogs diagnosed with idiopathic IMPA were reviewed. Dogs were classified according to treatment regimen initiated following diagnosis. Treatment response, incidence and time to relapse of clinical signs, and prednisolone exposure over six months following diagnosis (calculated from the area under the curve[AUC] of prednisolone dose[mg/kg] against time[months]) were evaluated.

RESULTS

There were 22 dogs in group PM and 8 dogs in group MIT. Response to treatment was not different between groups (PM: complete in 14/22, partial in 8/22; MIT: complete in 3/8, partial in 5/8 [$P = 0.242$]). Incidence of relapse was greater (PM 11/22, MIT 7/8, $P = 0.02$) and median time to relapse was shorter (PM 919d, MIT 202d; $P = 0.013$) in group MIT than group PM. Prednisolone exposure tended to be higher in group MIT (median [IQR] AUC 4.5 [3.1–6.5]) than in group PM (AUC 3.2 [2.8–4.0]; $P = 0.054$).

STATEMENT (CONCLUSIONS)

Dogs started on multimodal immunosuppressant therapy had an increased incidence and shorter time to relapse and a tendency towards greater cumulative prednisolone exposure compared to those receiving

prednisolone alone. This may suggest an advantage to prednisolone monotherapy or alternatively reflect an increased tendency for use of adjunctive immunosuppressants in severe or refractory cases. Further prospective randomized studies are therefore required to validate these findings.

Ligament laxity in non-erosive immune mediated polyarthritis (IMPA) in dogs (2009–2017)

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OBJECTIVES

To identify the incidence of carpal and tarsal ligament laxity in cases of non-erosive IMPA in dogs and to describe the clinical features of these cases.

METHODS

A single centre retrospective study in a referral population. Cases of non-erosive IMPA with ligament laxity were

identified by review of hospital records. Primary care practices were contacted to attain follow up in cases in which ligament laxity was identified. Data were descriptively analysed.

RESULTS

77 cases of non-erosive IMPA were identified. Of these 61 were type I, 10 type II and 6 type III. Four dogs were identified with carpal or tarsal ligament laxity.

Three dogs were female (2 neutered), and one male entire. A mixture of breeds were identified, one each of shar pei, Fell terrier, border collie and papillon. A range of body weights was identified (2.95 kg–19.5 kg). Three of these dogs were classified as type I IMPA and one type III. Affected joints were carpi and tarsi (n=3), carpi (n=1). None of the dogs were receiving anti-inflammatory or immunosuppressive doses of corticosteroids at the time of onset of ligament laxity. In 2 cases surgical intervention was required to address the ligament laxity (carpal and tarsal arthrodesis n=1, bilateral carpal arthrodesis n=1).

STATEMENT (CONCLUSIONS)

Ligament laxity has not been previously described in dogs with non-erosive IMPA. This suggests that damage to the soft tissue structures can occur in both erosive and non-erosive IMPA.

The use of a standard operating procedure in the analysis of canine packed cell volume

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OBJECTIVES

To evaluate whether the use of a standard operating procedure (SOP) reduces inter- and intraoperator variation,

and improves accuracy, in the measurement of the canine packed cell volume (PCV).

METHODS

An illustrated SOP was created, in a step-by-step approach. Aliquots of blood was prepared from surplus blood. The PCV of several aliquots were measured by the authors following World Health Organisation (WHO) guidelines.

Clinical staff and undergraduate veterinary students were randomly assigned to two groups; those with, and those without access to the SOP.

The participants were then instructed to perform a PCV measurement as they would on clinics, with or without the SOP.

The participants were required to record their measured PCV, which was then compared to that measured by one of the authors (CB or JPAS).

If the participant and author's were in agreement, but did not patch the reference values, this was deemed a mixing error. If the participant and author's values did not