Effect of brachycephalic conformation on haematocrit

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OBJECTIVES
To determine if brachycephalic conformation results in chronic systemic hypoxia leading to appropriate secondary absolute erythrocytosis as a compensatory mechanism.

METHODS
Retrospective study carried out from November 2014 to October 2015. There were 72 brachycephalic dogs (group B). In group B, 6 individuals underwent brachycephalic obstructive airway syndrome (BOAS) surgery. There was a control population (group N) that comprised 44 normocephalic dogs. Information on sex, breed, neuter status, body weight and diagnosis was obtained from medical records. Only individuals between 6 months and 4 years with a haematocrit (hct) performed at the small animal teaching hospital were included in this study. Patients with relative erythrocytosis, a known cause of absolute erythrocytosis such as primary erythrocytosis, cardiorespiratory disease and renal tumours or patients undergoing chemotherapy were excluded from the study.

RESULTS
In group B the overall hct was 46.5% and 46.1% in the group N. Among the group B, multiple regression showed that brachycephalic dogs that underwent BOAS surgery had a significantly higher hct (p=0.03) compared to the rest of the dogs. No statistically significant differences were found among the categories of age, sex and neuter status in comparison to the hct. Nonetheless, age had a significant influence in the model.

STATEMENT
This study shows that breeds with extreme brachycephalic features that required BOAS surgery had higher hct values and therefore reference ranges should be reviewed and tailored to these individuals.

Evaluation of a point-of-care coagulation analyser in dogs by comparison with central diagnostic laboratory methods

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OBJECTIVES
To compare measurements of prothrombin time (PT) and activated partial thromboplastin time (aPTT) using a point-of-care coagulation analyser (PCCA) with PT and kaolin-cephalin clotting time (KCCT) (which is similar to an APTT) measured in a central laboratory.

METHODS
Surplus blood was obtained from 57 dogs that presented for diverse reasons. PT and APTT were measured immediately after sampling on the PCCA using a drop of whole blood. PT and KCCT were measured on a citrated whole blood sample concurrently submitted to the lab. Reproducibility of the PCCA was assessed by running three identical PCCA’s simultaneously on 5 different samples.

RESULTS
PT could not be measured in one sample on the PCCA. There were significant correlations between the PT and APTT/KCCT results from the 2 methods. However there was only moderate agreement between the analysers (kappa for PT was 0.57 and for APTT/KCCT was 0.51) in classifying the samples as abnormal or normal using supplied reference ranges.