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Title of your summary **VENOUS BLOOD GAS ANALYSIS WITH RADIOMETERTM
ABL 735 GLA XP® INSTRUMENT: REFERENCE INTERVALS
IN DOGS**

Keywords Venous Blood Gas Analysis, Reference Intervals, Dog

Your summary Background: The Venous Blood Gas (VBG) analysis is ultimate in Veterinary Emergency and Critical Care (VECC) because provides a quick and complete picture of oximetry, fluid, electrolyte and acid-base balance. Accurate Reference Intervals (RI) are necessary to interpret correctly the patient's values. Objective: To establish RI for VBG in dogs performed with the RadiometerTM ABLGLA735XP® instrument used at a Veterinary Teaching Hospital, VECC Unit.

Methods: Over a period of 2 years 1,341 VBG reports were analyzed retrospectively. The data were selected according to the American Society

Veterinary Clinical Pathology guidelines for RI (indirect method, post hoc) and analysed with the MedCalc® software. New RIs were compared and validated to the RIs already in use derived from the reference consultation.

Results: RIs for measured parameters have been assessed: pO₂ (48.1-56.2 mmHg); pCO₂ (38.0-43.4 mmHg); ctHb (15.1-19.8 g/dL); pH (7.351-7.409); Na⁺ (140-154 mEq/L); K⁺ (3.9-5.3 mEq/L); Cl⁻ (109–124 mEq/L); Ca²⁺ (2.26-2.78 mEq/L); Glucose (81–124 mg/dL); Lactate (0.5-2.48 mmol/L). RIs for calculated parameters were also established: sO₂ (72.1-83.9%); tCO₂ (22.1–27.0%); HCO₃⁻ (20.8-25.2 mmol/L); AG (12.1-19.9 mEq/L); BE (-2.0-2.2 mmol/L); mOsm (302.1-314.4 mmol/Kg). RIs for Hematocrit and bilirubin were not considered as methods used from the instrument relies on human techniques with a reduced analytical sensitivity.

Conclusions: The new RIs were found almost overlapping to previous used RIs with exception of mOsm. Pre-analytical errors such as blood sampling, sample collection devices and input data for patient in the device (i.e. body temperature) are crucial to supply an accurate VBG analysis.

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