LMWH in vivo.

ABSTRACT NO. 75

EFFECT OF OBESITY IN DOGS ON AIRWAY REACTIVITY MEASURED BY BAROMETRIC WHOLE BODY PLETHYSMOGRAPHY

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The aim of this study was to evaluate the effect of body weight (BW) gain on respiratory parameters measured by barometric whole body plethysmography (BWBP), a non-invasive respiratory function test, and on airway reactivity measured by a bronchoprovocative test (BT). Seven 6-year-old beagle dogs (4 M, 3 F) were investigated at 21 weeks interval after being fed ad libitum a dry high-fat diet. A histamine BT using BWBP was repeated in both normal-weight (N) and overweight (O) sedated dogs (acepromazine 0.03 mg/kg and buprenorphine 15 µg/kg). BWBP parameters (respiratory rate = RR, tidal volume = TV, tidal volume per kg = TV/BW, minute volume = MV, minute volume per kg = MV/BW, peak inspiratory and expiratory flows per kg = PIF/BW and PEF/BW, inspiratory and expiratory times = Ti and Te) were evaluated during 5-minute periods before and after 1-minute session of nebulization of sterile saline solution and up to 9 increasing concentrations of histamine (0.1 to 1.6%) until enhanced pause (Penh, an index of bronchoconstriction) exceeded 300% of baseline. The provocative concentrations of histamine that increased Penh to 300% of baseline (airways reactivity indices: H-Penh300) were obtained from interpolation from the dose-response curve. T-test for paired data were used to test for differences in BWBP parameters and H-Penh300 ($p < 0.05$).

Mean BW increased from 13.96 ± 0.32 kg to 18.26 ± 0.54 (mean ± SEM) corresponding to a relative increase of 31% of the initial weight.