Measurement of arterial blood gas parameters in conscious restricted-dogs

 OBJECTIVE The purpose of this study was to establish the methodology to assess oxyhemoglobin saturation (sO2), blood gases (pO2 and pCO2), and pH in the arterial blood of conscious restricted dogs along with respiratory rate (RR) and cardiovascular parameters (CP).
[Method] The dogs acclimatized to the experimental condition were used. To obtain arterial blood and measure the blood pressure, a sheath catheter was inserted into the femoral artery of dog under halothane-anesthesia. After awaken from the anesthesia, the RR, heart rate, blood pressure, and electrocardiogram were continuously measured under sling-net restriction. One-mL of heparinized arterial blood was collected from each dog, pO2, pCO2, and pH were measured and sO2 was calculated automatically by blood gas analyzer. Experiment A: arterial blood samplings were performed in an awakening process from halothane-anesthesia. Experiment B: Arterial blood samplings were performed during the measurement of the RR and CP. [RESULT] Experiment A: sO2, pO2, and pCO2 were increased by halothane-anesthesia but pH was decreased. These parameters returned to the basal levels after awakening from anesthesia. Experiment B: The arterial blood sampling procedure did not affect the RR and CP. [CONCLUSION] The evaluation of arterial blood gas parameters could be conducted during the measurement of the RR and CP in conscious restricted dogs.

Development of in vitro sensitization test using the changes of cell surface thiols as a biomarker (SH test) (1); Role of cell surface thiols in activation of hapten-treated THP-1 cells

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