
CARDIOPULMONARY AND ANESTHETIC EFFECTS OF MEDETOMIDINE-KETAMINE-BUTORPHANOL AND ANTAGONISM WITH ATIPAMEZOLE IN SERVALS (*Felis serval*)

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Abstract

Seven (three male, four female) 4- to 7-yr-old captive servals (*Felis serval*), weighing 13.7 ± 2.3 kg (mean \pm SD), were used to evaluate the cardiopulmonary and anesthetic effects of i.m. medetomidine (47.4 ± 10.3 μ g/kg), ketamine (1.0 ± 0.2 mg/kg), and butorphanol (0.2 ± 0.03 mg/kg). Inductions were smooth and rapid (11.7 ± 4.3 min) and resulted in good muscle relaxation. A significant ($P < 0.05$) decrease in heart rate (85 ± 12 beats/min) at 10 min and in respiratory rate (27 ± 10 breaths/min) at 5 min was present following induction and continued throughout the immobilization period. No significant changes in rectal body temperature or arterial blood pressure were seen during the anesthetic event. Arterial blood gas analysis, performed at 1, 15, and 30 min after induction, showed PaO₂ decreased significantly and PaCO₂ increased significantly during immobilization. Changes were within clinically acceptable limits. No periods of hypoxemia (PO₂ < 60 mm Hg) were noted. Arterial blood oxygen saturation (SaO₂) was greater than 90% at all times. Relative arterial oxygen saturation (SpO₂) values, indicated by pulse oximetry, were lower than SaO₂ values. All animals could be safely handled while sedated. Administration of the α_2 -antagonist, atipamezole (236.8 ± 51.2 μ g/kg half i.v. and half s.c.), resulted in rapid (4.1 ± 3 min to standing) and smooth recoveries. At the dosage used in this study the combination of medetomidine-ketamine-butorphanol was effective for immobilizing captive servals.