

## Acute Peripheral Gangrene of Newborn Puppies after Cesarean Section

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**Signalment:** A pregnant Maltese (2-years-old, intact female, 2.1 kg), which had five fetus confirmed through the radiography and ultrasonography, underwent cesarean section because of delayed delivery.

**Results:** Preoperative vital signs of the bitch were stable except for mild depression. Cefazolin (30 mg/kg) and tramadol (2.5 mg/kg) were administrated as premedication. Anesthesia was induced with mixed anesthetic of ketamine (2 mg/kg) and medetomidine (0.02 mg/kg). During 15-minute surgery, fluid (lactated Ringer's solution with vitamin B, C and 2.5% dextrose) was administrated at a rate of 10 ml/kg/hr. After surgery, the bitch recovered from the anesthesia in 2 hours, and five puppies (M1/F4) were stabilized in incubator for 30 minutes. All puppies had no congenital malformation in appearance, but they were under sedation with bradycardia constantly. A drop of atipamezole diluted by ten times with distilled water was dripped at sublingual region to antagonize the effect of medetomidine, and then they got an active movement and increase of heart rate. After two hours, there were bluish discoloration on the distal part of the ears, limbs and tail in three infants. Over several days, the lesions resulted in dry gangrene and separation, but any treatment was not performed. A puppy among them died after a week. The affected lesions underwent autoamputation and reconstruction in a month, and any other disorders were not observed.

**Clinical relevance:** Although it was diagnosed as idiopathic gangrene induced by a peripheral ischemia, clinical signs were differed from a typical gangrene shown at birth in a site, location and range of affected lesions. Peripheral vascular constriction by medetomidine may cause acute peripheral ischemia and gangrene after cesarean section. It is recommended to reduce the dose of medetomidine and/or to antagonize the effect of medetomidine as soon as possible after treatment.

**Key words:** gangrene, newborn puppies, peripheral ischemia, medetomidine

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