

## Dyspnea Induced by Anesthetic Combination in Clinical Cases

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**Signalment:** Five patients were referred to Veterinary Medicine Teaching Hospital of Seoul National University (VMTH-SNU) for treatment of dyspnea after anesthesia for surgery in local animal hospitals. Two cats and 2 dogs were less than 7 months and the other cat was 26 months old. Four patients of them were pretreated with atropine for prevention of bradyarrhythmia. All of them were anesthetized by dissociative anesthetics (ketamine or Zoletil®) and alpha-2 agonist (xylazine or Domitor®). Two dogs appeared epistaxis and dyspnea before the surgery, and pulmonary edema or hemorrhage were confirmed on thoracic radiography. All cats had a normal arousal at the recovery. However, vomiting, anorexia and depression were occurred after several hours. Dyspnea was followed by these symptoms, and pulmonary lesion was confirmed on the thoracic radiography.

**Results:** In VMTH-SNU, patients were administrated antibiotics and diuretics with fluid therapy and oxygen supply. One dog was euthanized due to seizure according to owner's request. Another dog had an improvement of dyspnea through the symptomatic therapy for five days. Gradual recovery of pulmonary lesion was checked by follow-up. After 3 months, when the patient was scheduled for castration at the hospital, results of blood analysis and thoracic radiography were normal, and any other problem did not occurred during anesthesia. In the cases of cats, 2 cats were dead and the other cat recovered after the symptomatic therapy for 4 days.

**Clinical relevance:** In these cases, congenital disorders were not discovered and it was less possible to be occurred pulmonary edema by congenital heart disease in patients younger than 7 months. Sympathomimetic effect of dissociative anesthetics and contraction of peripheral vessel induced by alpha-2 agonists would induce hypertension after induction of anesthesia. Pulmonary lesion and dyspnea may be caused secondary to hypertension. Especially, when the patient was young, pretreated with atropine, and administrated intravenous, it would be considered that the possibility of dyspnea caused by pulmonary edema and/or hemorrhage is increased.

**Key words:** hypertension, dyspnea, dissociative anesthesia, alpha-2 agonist, atropine

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