

Therapeutic interventions using the peritoneal and coelomic cavity in dogs, cats, and exotic pets

Jacobo Romano Noriega, MVZ¹, and Elizabeth J. Thomovsky, DVM, MS, DACVECC^{2*}

¹Faculté de Médecine Vétérinaire, Université de Montréal, St-Hyacinthe, QC, Canada

²College of Veterinary Medicine, Purdue University, West Lafayette, IN

*Corresponding author: Dr. Thomovsky (ethomovs@purdue.edu)

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OBJECTIVE

To provide a video tutorial describing intraperitoneal (IP) and intracoelomic (IC) therapeutics (IP/IC fluid therapy, euthanasia, direct peritoneal resuscitation).

ANIMALS

Dogs, cats, and exotic pets.

METHODS

Peritoneal and coelomic centesis allows for delivery of fluids or to perform euthanasia. The peritoneal and coelomic membranes contain a vast network of capillaries and lymphatics that allow absorption of fluids and blood products. Needles are inserted aseptically IP or IC at species-specific locations to avoid iatrogenic damage. In mammals, the needle is inserted in a periumbilical location at a 1- to 2-cm radius from the umbilicus, while the needle is inserted into the ventral inguinal fossa in chelonians and lateroventrally in lizards and snakes. Direct peritoneal resuscitation is a human technique in which a dextrose/electrolyte solution infused IP reduces ischemia-reperfusion injury, edema, and tissue necrosis to improve mortality in patients with diseases like shock and sepsis or who require acute abdominal surgery.

RESULTS

Isotonic crystalloids are given IP/IC at 10- to 20-mL/kg doses (smaller volumes in reptiles) and blood products at standard calculated doses. Sodium pentobarbital without phenytoin (3 mL/4.5 kg) is used for IP/IC euthanasia.

CLINICAL RELEVANCE

Being aware of multiple routes for fluid and blood product administration allows treatment in animals for which intravenous or intraosseous catheterization is undesirable or impossible. While intravenous or intraosseous routes are always preferred, especially for resuscitation, familiarity with locations for IP/IC fluid and euthanasia is useful. Techniques like direct peritoneal resuscitation are not currently used in animals but might be translated to veterinary cases in the future.

Keywords: intraperitoneal, intracoelomic, direct peritoneal resuscitation, euthanasia, fluid therapy

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