

## Intravenous Lipids for Feline Permethrin Toxicity

This study described 3 cases of feline permethrin toxicity treated with IV lipid emulsion (IVLE) as one component of therapy. All cases showed marked improvement of muscle tremors after IVLE administration. Feline permethrin toxicosis occurs most often when canine flea preventive is applied to a cat. Permethrin toxicity produces a prolonged opening of sodium channels causing tremors, ataxia, hyperesthesia, mydriasis, pyrexia, hypersalivation, vomiting, and seizures. Treatment usually includes controlling tremors, supportive care, decontamination, and promoting excretion.

IVLE, a new treatment for toxicities that are lipophilic (eg, permethrins), is a sterile, nonpyrogenic fat emulsion used in paren-

teral nutrition. The goal of IVLE in permethrin toxicity is to reduce permethrin tissue concentrations, thereby decreasing hospitalization time and mortality rates. The exact mechanism of action is unknown, but one theory suggests that an intralipid pulls lipophilic molecules out of the interstitium.

The recommended dose of 20% intralipid is a 1.5 mL/kg IV bolus over 30 minutes then 0.25 mL/kg/min IV over 30–60 minutes through a dedicated IV set. Additional doses can be administered after 6–8 hours if signs have not resolved and the serum is not grossly lipemic. IVLE should be used with conventional therapies for permethrin toxicosis, and owners should be advised of its off-label use.

### ■ Commentary

IVLE greatly reduces hospitalization time and, in this study, resulted in clinical improvement in a short amount of time. There are minimal adverse effects to IV lipids, including anaphylactic reactions (ie, fat-overload syndrome). Adverse effects were not noted in the 3 cats in this study at 2 months (1 cat) and 6 months (2 cats) after discharge. IVLE is inexpensive and has been shown to be highly effective in lipophilic drug toxicities.—*Lisa L. Powell, DVM, DACVECC*

### ■ ■ Source

Use of intravenous lipid therapy in three cases of feline permethrin toxicosis. Haworth MD, Smart L. *JVECC* 22:697-702, 2012.

MORE ►



## JorVet Specialty Products

### TonoVet

Glaucoma is the leading cause of blindness, early detection is the only way to control it.

- New rebound technology, TonoVet is held 1/4" away from the cornea
- Tiny probe painlessly and rapidly touches the cornea
- Audible beep tells of a successful result

