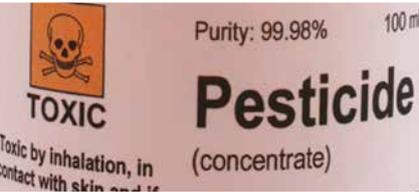


Toxic Times

SPRING 2015 ISSUE



Welcome

A very warm welcome to the Spring edition of Toxic Times.

With Christmas a distant memory, the number of enquiries we are receiving about chocolate has decreased slightly, but remains a constant throughout the year. This issue will look at lily toxicity in cats, another of our year-round enquiries, although, in contrast to chocolate, one where the mechanism of toxicity is poorly understood.

We will also consider one of the mainstays of treatments in toxicity, emetics, along with a relative newcomer in the field, intravenous lipid infusion. As always, we'd love to hear your thoughts and experiences with these,

either via email info@vpisglobal.com or on our 'Report a Case' tab on the VPIS website www.vpisglobal.com

The 2015 CPD dates and locations are listed, with details of how to reserve a place.

If there is anything you would like reviewed or discussed in forthcoming issues of Toxic Times, let us know via email, as we're always really happy to help in any way.

Enjoy the brighter weather and let's hope there aren't too many April showers!

Unusual cases

Ethanol in a dog

A 12 kg Cocker spaniel knocked over and broke a bottle of port (20% ethanol). When the owner returned the dog was drunk with ataxia. By 1 hour after admission the dog was comatose with respiratory depression (down to 12 respirations/minute) and it developed hypothermia (36.4 °C at worst point) with congested mucous membranes. The dog was managed overnight with warming measures, IV fluids (twice maintenance), and supportive nursing and had recovered by 8 hours.

NERF foam in a cat

NERF foam (Non-Expanding Recreational Foam) is made from a solid, spongy cellular material. To produce it, polyester resin reacts with another compound in the presence of carbon dioxide from another reaction. This gas creates open pockets within the polyurethane that, in turn, make the material soft and light.

A 12 year old cat presented 3 days after ingestion of a dart from a NERF gun that it had found in the garden. It was severely dehydrated with severe vomiting and elevated liver enzymes. It was given aggressive fluid therapy, ranitidine and buprenorphine but died on day 4. The cause of death was thought to be a 'blockage'. The material itself is unlikely to have had any inherent toxicity.

ALSO IN THIS ISSUE:

- Lily Toxicity in Cats
- Intravenous Lipid Infusion (Lipid Rescue)
- Emetics



Lily toxicity in cats

It is generally well known that the *Lilium* species are toxic to cats and it must be emphasised that all parts of the plant, including the flowers, leaves and pollen are implicated. We have cases reported to us where cats have developed renal failure after playing with boxes in which lilies were delivered, and the flowers were no longer present; in these cases, it appears that the cats were only exposed to remnants of the pollen, but this has been sufficient to cause fatalities.

Cats are the only species reported to develop renal damage from lilies; although the toxic principle(s) and mechanism of nephrotoxicity are unknown, renal failure is due to necrosis of renal tubular epithelial cells.

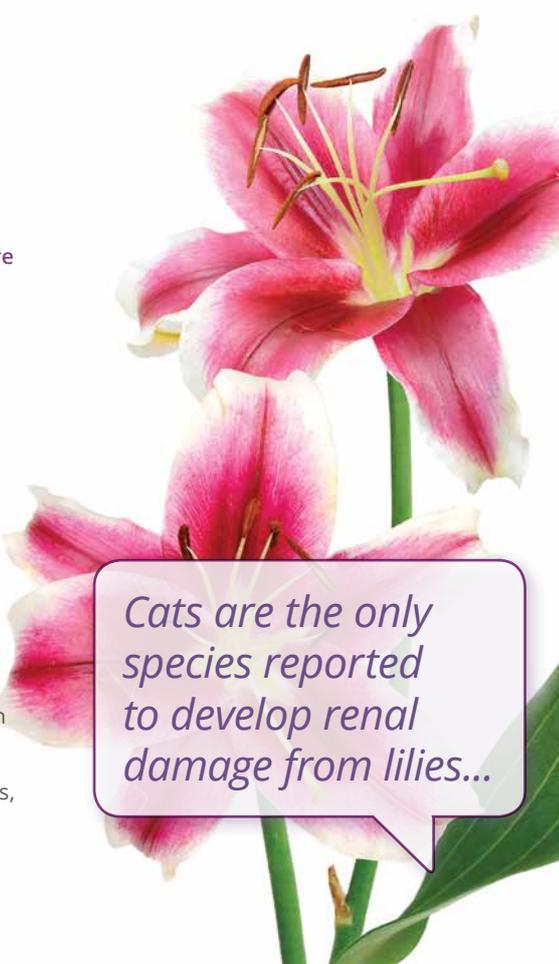
Initial presenting signs may include hypersalivation, vomiting, which may last for 6-12 hours, lethargy and depression. The renal function starts to deteriorate from 24-72 hours, with death generally occurring 3-7 days post-exposure.

Prompt decontamination and treatment is crucial to a successful outcome, and the prognosis is good if this is started before the onset of renal impairment. However, in cases where treatment is delayed for 18 hours or more after exposure, or anuria is already present, the outcome is likely to be poor.

To prevent the cat grooming pollen from the fur, the fur should be thoroughly washed and clipping may be required if the fur is particularly long or thick, or there is a heavy pollen contamination of the coat.

Induction of emesis could be considered and activated charcoal given. Subsequent treatment is aimed at preventing renal shutdown and enhancing renal perfusion, with twice maintenance IV fluids for 48 hours required for all cases. It will also be necessary to monitor the renal function and electrolytes.

Other animals, such as dogs and rabbits, do not develop any evidence of renal injury, even where large amounts of plants have been ingested, although these animals are likely to develop gastrointestinal signs.



Cats are the only species reported to develop renal damage from lilies...

INTRAVENOUS LIPID INFUSION (LIPID RESCUE)

The tremors and convulsions associated with poisoning from permethrin, ivermectin, moxidectin and baclofen are notoriously difficult to deal with, being generally unresponsive to treatment with diazepam, and often requiring prolonged propofol continuous rate infusions, which are not without risks.

The use of intravenous lipid infusion, also known as lipid rescue or lipid emulsion, is a very effective, cheap and straightforward treatment which has become increasingly popular as awareness of it has spread.

Lipid is a component of parenteral nutrition used in both human and veterinary medicine. Intralipid™ is the main product used and is widely available from most hospital pharmacies and through the VPIS/Vets Now ToxBBox scheme (www.vpis.co.uk).

It is suitable for poisoning involving lipophilic drugs, where it is thought to act as a 'sink' for these drugs, making them unavailable to act on their target

receptors. Care must obviously be taken if an animal is receiving therapeutic lipophilic drugs, as these too will be effected. Contraindications to lipid rescue would include disorders of fat metabolism, liver disease and egg allergies, as Intralipid™ contains egg-yolk phospholipids.

The therapy is generally considered safe, although there would be a risk of fat emboli if it were infused too rapidly, or in too high a dose, or pancreatitis in rare instances.

Dosage is variable but generally the dose is: 1.5ml/kg of a 20% lipid emulsion given as an iv bolus dose, followed by an iv infusion of 0.25ml/kg/min.

Improvement should be seen in the first 30 minutes, with a repeat of the bolus and infusion possible 1 or 2 additional times if improvement is not seen.

The low cost of the treatment (approximately £7.30 for 100ml, £15.90 for 500ml) makes it an affordable option, either as an alternative to CRI propofol, or to reduce the amount of time an animal would have to receive a propofol infusion.

The VPIS and RVC have many cases where lipid rescue has been used with great success, and in cases where the poison is lipophilic, it is worth thinking about this therapy as a first line option, rather than as a last resort.





**VETERINARY POISONS
INFORMATION SERVICE**

VPIS Subscription and Payment Options

Current VPIS members

There are two different options available to use our service based upon your specific needs.

VPIS Annual Contract Subscription

As a busy practice, you may require our 24-hour emergency service several times a year. With the contract option you only pay once a year (based on your previous and expected usage), which saves you the bother of remembering to top up when your case credits are running low, and your cost per enquiry remains the same, whether you call in hours or out of hours.

Furthermore, a combination of online CPD and class-based CPD courses are included in your subscription (depending on the contract level), thus saving you money compared to buying the credits and the CPD elements separately.

In addition, this year our annual subscriptions include an **online subscription to Companion Animal, The Veterinary Nurse, Livestock and Equine Health**, four highly-regarded titles that look after the needs of vets and nurses and keep practitioners completely up to date with clinical developments and the latest published research.

To move on to an annual contract subscription, please login to your online account and select 'Move on to contract'.

Alternatively, you can email us at:
admin@vpisglobal.com

Pay-As-You-Go

You buy case credits online and top them up when needed, with several credit bundles to choose from. Furthermore, if you opt for an Auto Top Up, you will get a discounted price per credit.

For further details, visit <http://vpisglobal.com/pay-as-you-go-subscription/>

(Pay-as-you-Go no longer available to practices not currently registered with VPIS)

New members

If your practice has never registered with VPIS, you will need to purchase an annual contract subscription.

To register and subscribe, please visit
<http://vpisglobal.com/new-members/>



Emetics

One of the mainstays of gastric decontamination for cases of poisoning is an emetic. Contraindications to the use of emetics would include an animal which is drowsy or lethargic, or if there is the possibility of rapid onset convulsions occurring. Emetics would also be contraindicated if the agent ingested is a corrosive or a volatile solvent; a foaming agent, such as a detergent, would also be contraindicated as there is a risk of aspiration.

Commonly, for dogs, apomorphine is used, and is associated with prompt vomiting; the only licenced emetic for dogs contains apomorphine. Making a cat vomit is not as straightforward and often frustratingly difficult. In our discussions with vets around the country, it appears that some vets rarely try to make cats sick, some use xylazine or medetomidine, and some occasionally use apomorphine. The result is often a sedated cat, which has not and will not vomit. We would be very interested to hear your thoughts on the use of emetics in cats, if you use them, how successful you find them, or any tips you could pass on!

The use of soda crystals, if you can find them, is often successful, with one crystal being put at the back of the throat. However, there have been reports to the VPIS of animals developing inappetence, hyperthermia and tongue inflammation as adverse reactions to washing soda administration. If owners state that they have used washing soda at home, it would be advisable to be alert for these adverse effects, as well as ensuring that it actually was washing soda crystals, as again, we have cases on file where there have been tragic misunderstandings, and

caustic soda (sodium hydroxide, a strong alkali) has been given in place of washing soda. Washing soda seems now to be sold more commonly as a powder and some vets have taken a very small amount of powder, formed a small bolus or paste with water, and then applied to the back of the mouth.

It is always worth checking with the owner whether they tried to make the animal sick, and if so what they used to do so, as again, we have cases where animals have died after administration of a salt-water emetic, often when the original agent ingested was non-toxic or would have not required emesis as treatment.

It should be remembered that emesis does not empty the stomach completely; generally the quantity returned is in the range of 40-60%. In an experimental study in dogs given oral carprofen, activated charcoal alone was as effective as the combination of emesis and activated charcoal in terms of time to maximum blood concentrations, maximum concentration, area under the curve and elimination half-life.

Please let us know your thoughts and ideas on this topic.





MEET THE TEAM

What are your hobbies / other interests?

I enjoy spending time outside and walking in the woods, and whenever I get the chance I like to head to the coast and go surfing. I also love watching live music and try and get to the odd music festival when I can.

Favourite food?

Cheese, in any shape or form!

Favourite music?

I have quite an eclectic taste in music – a general rule is anything guitar based, whether at the acoustic folk or heavy metal end of the spectrum. I play the flute and have a fond spot for a lot of classical music too.

Where is the most unusual place you have ever visited?

Travelling around South America a few years ago – we visited the salt flats at Uyuni in Bolivia which were absolutely stunning and surreal, and detonated some dynamite while exploring a working mine – when the miner says ‘run, explosion’, you run!



Favourite quote:

‘Praise and blame, gain and loss, pleasure and sorrow come and go like the wind. To be happy, rest like a giant tree in the midst of them all.’ - Buddha

Name: Jo Crouchley

Job Title: Senior Information Scientist

How long have you worked for VPIS?
3 ¼ years.

What do you most like about your job?

Cases with happy endings, and knowing that the advice we have given has helped to prevent the deaths or suffering of animals exposed to poisonous substances.

I also love that there we are constantly learning - there is always an exposure that you have never come across before.

What do you most dislike?

Working alone during night shifts! Also I hate late-presenting ethylene glycol cases. It is always upsetting having to say that there is nothing further that can be done.

What is your most memorable VPIS telephone enquiry?

There are a few to choose from – from unusual animals such as a couple of

tapirs, to dogs eating ridiculous things like a kilogram of window putty...

But the most memorable case is actually a very sad one involving a police dog who had been out searching for a missing person. He had eaten an unknown substance that looked like it had been put down deliberately, and became rapidly unwell with vomiting, frothing at the mouth, convulsions, hyperthermia and signs of renal failure. The call came in at 5am and unfortunately the dog passed away during the course of the case discussion – I think the dog’s handler, the vet and I were all in tears at some point. The post mortem actually showed a diagnosis of haemorrhagic diathesis so it may have had nothing to do with the exposure we were called about.

Do you / did you have a pet / pets?

Currently no, unless you count my houseplants. Previously I have had goldfish, gerbils, guinea pigs and horses – Schweppes, a very grumpy New Forest pony and a Connemara called Sting.

2015 CPD COURSES

‘Small Animal Poisoning’ Training Course (1 day)

Next event: **13th May – London** (still accepting bookings!)

The aim of the course is to introduce to and remind vets and vet nurses of the common and not-so-common poisons they are likely to come across in small animal practice. The course is centered on case histories, and the lessons and principles that can be drawn from these.

Key Areas Covered (six hours of CPD)

We’ll cover the following, with scope for the additional discussion of any particular agent or topic you would like included on the day itself:

- Case histories for potential poisons cases
- Decontamination for poisons cases
- Toxicology information resources
- Common or tricky poisonings in cats and dogs

To book, please complete and return the booking form along with your payment, either via email, fax or post.

Online CPD Courses

VPIS also offers a series of 10 online CPD modules covering the most common poisonings in veterinary medicine.

Each module is worth 1-hour of CPD and contains real-life case studies and self-assessment tests. These can be accessed through the Vetacademy website

www.vetacademy.org/CE-CPD-Providers/VPIS-veterinary-poisons-information-service

Date	Location
May 13th	London
June 10th	Bristol
July 8th	Edinburgh
September 2nd	Cambridge
October 1st	Manchester
November 25th	London