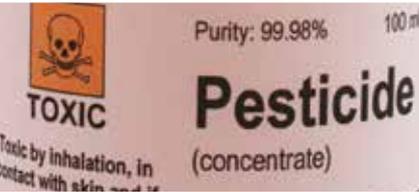


Toxic Times

SUMMER 2015 ISSUE



Welcome

With food never far from collective thoughts, this issue will look at whether there is a risk of theobromine toxicity associated with acai berries, one of the 'superfoods'. In the next edition of Toxic Times, at the opposite end of the health and well-being scale, the issue of 'legal highs' will be considered. On a related topic, we'd be very interested to hear your experience of animals ingesting marijuana, even if you don't need to contact us.

There is a summary of gastric decontamination techniques, focusing on the situations where decontamination techniques

are not appropriate. If you find it helpful, this section has been designed to be put up on a wall for easy reference.

The dates and venues of the year's remaining CPD sessions are noted, and as always, we would love to hear from you on any subject.

Very best wishes for a happy and healthy summer!

CPD DATES REMAINING FOR 2015

Date	Location
September 2nd	Cambridge
October 1st	Manchester
November 25th	London

Key Areas Covered (six hours of CPD)

- Case histories for potential poisons cases
- Decontamination for poisons cases
- Toxicology information resources

Cost and Bookings

Standard fee: £285 + VAT
Early bird fee: £240 + VAT*

Each delegate will receive course notes and a CPD certificate (equates to 6 hours CPD training). Lunch and refreshments are provided.

Bookings: To reserve a place, please visit us at <http://vpisglobal.com/class-based-courses-2/> and download the booking form.

* *Early bird discount applies to bookings made up to 8 weeks prior to the course date*

Drugs of Abuse

The next issue of Toxic Times will cover the issue of 'Legal Highs', but on a related subject, we'd be interested to hear of any cases you see of animals ingesting marijuana - feel free to use the "Report A Case" facility on our website if you do not actually need to contact us regarding the case. In the USA, where marijuana has been legalised in many states, the Pet Poison Helpline, who answer calls from members of the public have reported a 200% increase in the number of cases/enquiries they have received on this agent.



CONTRAINDICATIONS FOR EMESIS AND ACTIVATED CHARCOAL



EMESIS SHOULD NOT BE INDUCED IF...

THE ANIMAL...

- is very drowsy or unconscious,
- is fitting,
- has reduced cough reflex.

THE SUBSTANCE INGESTED...

- is likely to cause rapid onset of drowsiness or seizures,
- contains paraffin, petroleum products or other oily or volatile organic products which could be aspirated into the lungs,
- contains detergent compounds, which could be aspirated into the lungs,
- is a strong acid or alkali, which could cause further damage to the oesophagus if regurgitated.



CHARCOAL IS NOT USEFUL FOR...

- **ACIDS**
- **ALKALIS** (e.g. sodium hydroxide)
- **ALCOHOLS** (e.g. ethanol, isopropanol, methanol)
- **ESSENTIAL OILS** (e.g. tea tree oil)
- **GLYCOLS** (e.g. ethylene glycol)
- **METALS** (e.g. iron, lead, mercury)
- **PETROLEUM DISTILLATES** (e.g. white spirit, petrol, kerosene)
- **SODIUM CHLORIDE** (salt)

These substances are not adsorbed by activated charcoal. The list is not exhaustive and it should be noted that for many agents there is no clinical evidence that they are adsorbed by charcoal.



OBSOLETE AND DANGEROUS EMETICS

A number of substances have been used as emetics in the past but they are obsolete and potentially dangerous. Always check to see if the owner has given the animal anything at home, or has 'Googled'!

- **Salt (sodium chloride)** should never be used. It can cause serious or fatal hypernatraemia in animals when used as an emetic.
- **Mustard** is unreliable as an emetic and not recommended.
- **Hydrogen peroxide** is recommended and widely used as an emetic in the USA and may show up as a result on a Google search, however the concentration used in the US is 3%, whereas in the UK, the concentration is more typically 6%.
- **Copper sulphate** is also a potent emetic but is not recommended because of risk of toxicity.
- **Syrup of ipecacuanha (ipecac)** was commonly used as an emetic in the past, particularly in human medicine, but is now not recommended. It is relatively ineffective, slow to act, has a bitter taste and is no longer widely available.



MEET THE TEAM

Name: Jeney Niquepa Aranzazu

Job Title: Information Scientist

How long have you worked for VPIS?

I began working here in July 2014.

What do you most like about your job?

I like to know that the advice given helps to save poisoned animals. But also the amount of information we hold on products is vast and I'm always intrigued to know how things work and how mechanisms of action vary depending on the species involved.

What do you most dislike?

Working alone on night shifts.

What is your most memorable VPIS telephone enquiry?

There are so many, but one of the most memorable, although I didn't take the enquiry myself, was of a 10 week, 2kg puppy who had ingested 16 different tablets including baclofen. She was treated with intensive supportive care, atropine, diazepam and 2 courses of intravenous lipid infusion and went on to make a full recovery. The vets thoughtfully emailed us a photo of her the following day just before she was discharged.

Do you / did you have a pet / pets?

I have a Staffordshire Terrier/Pit Bull cross, called Gorda - which means

'fatty' in Spanish! She's a very active 8 year old and loves to sit in the sun and look out of the window.

What do you do in your spare time and any hobbies/interests?

I really like to do sports. I love taekwondo and playing football, but unfortunately I had to stop both due to a dislocated knee injury. I love to spend my spare time travelling, sightseeing and dancing Salsa and Bachata.

Favourite food?

Has to be homemade Colombian food, however I love Thai, sushi and pasta.

Favourite music?

I couldn't live without it! I love to listen to Latin American music, like Salsa (Marc Antony) and Bachata (Romeo Santos) but also love listening to Beyonce.

Where is the most memorable place you have ever visited?

Has to be Egypt. It was a country I have always wanted to visit since I was very small and I just loved it! The pyramids, the desert, the crystal clear sea. Just loved it! I didn't want to leave and will definitely go back again.

Favourite quote:

"Respect others the way you want others to respect you" and "Never judge a book by its cover."

ACAI BERRIES

It seems that hardly a month goes by without some new 'Super Food' promising to aid weight loss, erase wrinkles or give supremely high levels of anti-oxidants. Acai berries (*Euterpe oleracea*) are a recent edition to this category, and as the berries do not have a very long shelf life, they are often made into capsules, juice, powders or supplements. These preparations are now widely available in health food shops, and as publicity around them and their apparent benefits has been growing, they are now more likely to be found in homes-medicine or kitchen cupboards- than in previous years.

Although Wikipedia does not categorically state that theobromine is in acai, unverified sources on the internet claim that it does, but give no citation for that statement. This is an issue for both vets and the VPIS, as if dogs, as they are prone to do, are ingesting large quantities of anything that comes their way, such as acai berry capsules, it raises the possibility of a theobromine/methylxanthine toxicity in the same way that chocolate causes problems.

Natural Medicines Comprehensive Database states that acai berries contain high levels of *several anthocyanins, proanthocyanidins, and other flavonoids*, which are responsible for the anti-oxidant potency and that the berries also contain several fatty acids. However, this source does not mention any theobromine component.

One study measured the theobromine and caffeine in asai (in this paper) and other fruit. They tested *Euterpe precatória* not *Euterpe oleracea* (the latter is commercially grown as the fruits are bigger). They found:

Purine alkaloid content was below detectable levels except caffeine and theobromine in cocona [Theobroma grandiflorum] (0.97±0.05 and 0.138±0.14 mg/100 g pulp, respectively) and cannot be considered a significant source of such type of metabolites.

Reference: Juliana E. C. Cardona JC, Carrillo MP, Lares M, Gutiérrez RH, Hernández MS, Fernández-Trujillo JP. 2013 Bioactive compounds in new food products from Amazonian fruits. *Foods* 2013, 1, 1-x manuscripts; doi:10.3390/foods10x000x

In a further website discussion, it was stated:

I don't think Acai contains a significant (any?) amount of caffeine or theobromine, but beverages are often mixed with other extracts, so you should look to see if the acai beverage contains other sources of methylxanthines. It is not in the same family as the other xanthine-containing plants: it is related to palms, and is a monocot, not a dicot.

In the absence of any definitive information it seems unlikely that theobromine toxicity would result from the ingestion of large amounts of acai-containing preparations; in our experience of cases reported to us involving these preparations and products, the only clinical sign was vomiting, and this was mild and self-limiting. We would always try to establish if any other herbal ingredients were present in a product or if indeed, as described above, the berry powder or juice had been mixed with another source of theobromine.