Indospicine toxicity in dogs

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AGRICULTURE VICTORIA

A recent cluster of cases of liver disease in dogs has been traced to a toxin known as indospicine. Indospicine is found naturally in some plant species and can accumulate in the tissues of grazing animals, which may then be inadvertently fed to dogs, leading to illness or death.

BACKGROUND

A cluster of approximately fifty dogs suffering from liver disease is currently under investigation across Bairnsdale, Latrobe Valley, and South East Melbourne. Clinical signs ranging from mild elevations of liver enzymes on blood tests through to severe hepatic (liver) disease and death were seen in these cases.

A suite of tests has been conducted to eliminate possible toxic and infectious causes. Indospicine, a plant toxin has been confirmed in tissue and blood samples from affected animals.

Agriculture Victoria is working closely with PrimeSafe and local pet food suppliers to coordinate further investigations in a bid to identify a possible source of this toxin.

WHAT IS INDOSPICINE?

Indospicine is a naturally occurring hepatotoxin (toxin that causes liver damage) found in plant species from the genus *Indigofera.*

These plants are generally high in protein and palatable to livestock. Indospicine residues accumulate in the tissues of grazing animals such as cattle, camels, and horses, and can persist in tissues for several months after exposure.

Dogs are particularly sensitive to indospicine when it is consumed in meat products from grazing animals containing this naturally acquired plant toxin. The resultant liver damage can cause a range of clinical signs from mild illness to serious hepatic (liver) disease, leading to death.

Indigofera sp. are widely distributed across tropical and subtropical regions. In Australia 65 species have been recorded of which *I.linnaei* is the most prevalent across central and northern Australia and is known to contain high levels of indospicine. They are a hardy, drought resistant plant that flourishes during the wetter months in the subtropics.

WHAT ARE THE SYMPTOMS OF INDOSPICINE TOXICITY IN DOGS?

Indospicine toxicity in dogs can present with a range of non-specific clinical signs. The severity of disease may be related to the amount of toxin consumed, the duration over which the toxin was fed (i.e. fed on one day or over several days/weeks) and/or other concurrent health issues that may contribute to the illness.

Clinical signs are often related to underlying liver damage from the toxin and may include;

- Loss of appetite
- Lethargy
- Jaundice
- Abdominal discomfort
- Vomiting
- Elevated liver enzymes on a blood test

Some cases of toxicity will cause severe liver damage resulting in death.

There is no specific treatment for indospicine toxicity which relies on generalised supportive therapies such as intravenous fluids and non-specific medications.

HOW CAN I REDUCE THE RISK OF EXPOSURE?

Indospicine is a naturally occurring toxin that is impossible to detect without specialised laboratory tests.

Camels and horses previously grazing *Indigofera sp.* in northern Australia should not be used for pet food because this meat has been shown to pose a risk to dogs.

The cause of the current cluster of cases has not yet been identified but vigorous investigations are continuing.

On a precautionary basis, we are advising that dog owners should not feed fresh or frozen knackery meat, especially kangaroo meat, sourced from the Gippsland area between 31st May and 3rd July. If you have concerns, please consult your pet food provider to understand where your fresh meat came from and when it was sourced.

IS THERE A RISK TO PEOPLE?

Dogs are especially susceptible to indospicine toxicity and the current risk is to dogs. Pets suffering from liver disease associated with indospicine toxicity do not pose a risk to people. There are no indications of any risk to human health nor of human food safety issues associated with these cases to date.

Pet meat must comply with the Australian Standard for the Hygienic Production of Pet Meat. There are strong food safety regulatory controls to prevent pet meat entering the human food supply.

Research shows that people have a relatively low susceptibility to indospicine toxicity and FSANZ advise that they are not aware of any reports of adverse effects in humans due to the ingestion of toxins such as indospicine via meat consumption.

WHAT IF I SUSPECT INDOSPICINE TOXICITY IN MY DOG?

Pet owners are advised to contact your local veterinarian for medical assessment and advice if your pet is unwell.

Suspect cases of indospicine toxicity can be reported to Agriculture Victoria on 136 186 or to your local Agriculture Victoria Animal Health and Welfare staff.

ACCESSIBILITY

If you would like to receive this information/publication in an accessible format (such as large print or audio) please call the Customer Service Centre on 136 186, TTY 1800 122 969, or email customer.service@ecodev.vic.gov.au.

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