



Heavy Metal Toxicosis

Introduction

Heavy metals (lead, zinc, copper and arsenic) are not uncommon metals in our environment. Parrots, with their propensity for chewing of items, are at risk of ingesting levels of these metals sufficient to cause illness and sometimes even death.

Types of Heavy Metal Toxicosis

Depending on the type of heavy metal involved, the symptoms and time of treatment can vary. Lead and zinc are the most common heavy metals involved in bird toxicoses. This is due to the different behaviour of the different metals – for instance, lead is stored within the body, while zinc is not. It can be difficult to identify the exact metal (or combination of metals) involved in a particular case of toxicosis.

Symptoms

The symptoms of heavy metal toxicosis depend on the amount and the time period over which the metal has been ingested. Acute signs include sudden depression, excessive drinking, vomiting, diarrhoea, neurologic signs (imbalance, falling from perch, strange behaviour) and sudden death. Chronic signs of toxicosis can include decreased immunity, failure to thrive, poor breeding performance and poor digestion.

The toxin causes damage to a number of organs, including the kidneys, the gastrointestinal tract and the nervous system.

Diagnosis

The diagnosis of heavy metal toxicosis is made by any or a combination of history, clinical signs, radiography and blood testing. Your veterinarian will question you intensively about the possibility of your bird being exposed to heavy metal, and may ask you to return home and check for any of the common items containing lead or zinc. Radiographs may show particles of heavy metal, suspended in the gut. Unfortunately, not all particles are heavy metal, and not all cases of heavy metal toxicity have particles currently visible within the bird (some cases have already absorbed the metal from the gut, and the metal is now circulating within the body). Regardless, a radiograph is useful, because if particles are identified within the gut, then treatment must continue until they have passed through. Lastly, there are blood tests for both lead and zinc levels. These take at least 24 hours to give results, but can be useful in cases where there is no firm case of exposure.

Treatment

The treatment of this toxicosis involves twice daily injections of a drug that binds the heavy metals. This is continued for a minimum of three days. Sometimes, several days are required to completely eliminate the toxin. Birds are considered critical in the first 24 hours of treatment – sometimes the toxin has

caused so much damage that the body cannot recover. For this reason, birds are hospitalized for the duration of treatment so that they can receive supportive therapy, including fluid supplementation and other drugs to help the body cope with the side effects of toxicosis.

Sources of Lead

- Weights – curtain weights especially but also fishing and diving equipment
- Bells – check for lead clappers
- Self-righting toys
- Batteries
- Solder – check joints of metal articles, especially cage repairs.
- Lead pellets from shotgun cartridges or air-rifles
- Lead based paints, varnishes and lacquers (some lead free paints have leaded drying agents)
- Foil from over champagne and wine corks
- Electricians cable clips
- Light bulb bases
- Linoleum & Roofing Felt
- Car exhaust fumes
- Glazed ceramics and mirror backing
- Costume jewellery
- Plaster and Putty
- Leaded or stained glass windows
- Seeds for planting (coated with lead arsenate)

Sources of Zinc

- Galvanized wire, nails, clips, padlocks and feeding bowls especially when new (brushing with a wire brush and vinegar reduces, but doesn't eliminate the risk)
- "White rust" on older galvanized products
- Metal monopoly game pieces or similar
- Some coins
- 'C-Clamps' used to attach toys to cages
- Wires used as hangers for chew-sticks
- Shiny 'silver' coating on cage bars

