Budgerigar Health And Related

Avian Articles From Highbury Veterinary Clinic Victoria,

Permission has been sought and kindly given for us to use publish these articles on our forum to help our members. I very much appreciate the fact that we have been allowed to use this wonderful information on our forum.

Thank you very much Dr Philip Sacks MACVSc of the Highbury Vet Clinic.

More About Dr Phillip Sacks

http://www.birdclinic.net/avian_bird_articles/avian_articles.htm

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Heavy Metal Poisoning

Poisoning from the intake of lead, zinc and occasionally copper is called "heavy metal" poisoning and is one of the most common toxicities that we see in pet and aviary birds. Birds are often inquisitive and examine new objects and place then in their mouths. They like to chew on shiny objects. Toxicity can result if the metallic object contains heavy metals. Stainless steel is safe and an ideal product for feed dishes and cages. This is largely a preventable disease and we will discuss how typical cases present to our Melbourne veterinary clinic and what steps owners can take to prevent heavy metal toxicity.

The birds may present with one or more of the following symptoms:

* Weakness
* Lethargic and fluffed
* Vomiting or regurgitation
* Sometimes they will seizure
* Pass watery green droppings
* Severely affected birds may die suddenly
* A more common syndrome is that of low level poisoning with vague clinical signs and pet birds that are just "not well".

Lead poisoning is regularly seen in pet birds and waterfowl. This is because sources of lead can be surprisingly common in household situation. The increase in awareness of the dangers of lead to humans has resulted in decreased the availability of Lead to our pets. With the increased number of pets coming in for well bird exams (SEE TALKING BIRDS FEB 05) and more awareness about sources of lead, many potential poisoning are avoided. In Lead toxicity, there may be neurological signs (seizures, blindness and head tilt) or a wing droop or leg paralysis. There may also be "blood" present in the droppings called hemaglobinuria, which is not blood but breakdown product of blood. Common sources of lead toxicity are listed in the table below. Read through the list and check that your pets are protected.

SOURCES OF LEAD

Lead fishing weights
Lead gunshot
Lead putty,
Lead solder
Lead based paints – especially undercoats in older houses.
Glitter from trendy clothes
Curtain weights
Foil from the top of wine and champagne bottles
Christmas ornaments
Stained glass window
Coins
Costume jewelry
Batteries
Bird toys
Linoleum
Ceramics
Drinking water
Light bulb bases
Glaze ceramics
Mirror backs

Zinc is a trace element necessary in the diet and can cause problems if the diet is deficient in this trace mineral. So both toxicities and deficiencies can exist.
Zinc toxicity, also known as New Wire Disease, is a common syndrome that is under diagnosed. Aviary wire is galvanized with Zinc Oxide to protect it from the elements. Often the brighter and more shiny the wire the higher the zinc content. There are many household products that also contain zinc as a component. Clinical signs are similar to those seen in lead poisoning.

SOURCES OF ZINC

Galvanized wire aviaries
Galvanized nails, mesh, washers
Coins
Staples
Fertilizers
Hardware cloth
Some paints
Containers
Monopoly game pieces

Diagnosis - The heavy metal poisoning can be difficult to confirm and monitor, we often need a combination of tests, including x-rays, repeated lab results and clinical signs, to confirm and provide appropriate therapy.

We start with:
1) Discuss the bird's environment with the owner – especially concerning cage material, toys, and cage enclosure age - exposure of bird to toxins and a discussion of the birds' environment.

2) On physical examination we may find – regurgitation or vomiting, watery green or bloody droppings, weakness, and fitting.

3) Radiographs / x-rays – we may see the heavy metal particles in the bird usually in the crop, gizzard or elsewhere in the gastro intestinal tract,

4) Changes in blood enzyme levels to reflect damage to organs and red blood cells.

5) High Blood Lead levels are diagnostic; repeating blood lead levels once on treatments allows us to monitor the recovery

Treatments for Heavy Metal toxicity include:

1) Fluid therapy to protect the organs from further damage and to flush the toxins out the body.

2) A metal cheating agent, calcium EDTA – works by "trapping" the lead or zinc into its central ring and then filtering it out the kidneys, or into the intestine. The drug is injected twice daily till improvement starts. Oral D-penacillamine is can also be used as an oral medication.

3) Antibiotics are given to prevent infections while the body is recovering.

4) Crop feeding - to add fluids and calories necessary for recovery.

5) Vitamin B complex and especially thiamine to prevent deposition of metal into tissues and help the nerves recover.

6) Place avian patient in an incubator in a quiet low stress environment so all of the bird's energy can be used for recovery.

7) Treatment of seizures with anticonvulsants.

8) Large metal pieces may be removed under general anesthesia or if possible allowed to pass naturally.

9) Smaller metal pieces not passing through can be flushed under general anesthetic using warm fluids.

10) Bulking agents can be added to the diet or crop fed to hasten the removal of metal particles through the gastrointestinal system.

Heavy Metal Poisoning

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A large zinc particle ingested – now lodged in the gizzard of a parrot

PREVENTION of heavy metal poisoning
1) Avoid sources of lead and zinc and copper.
2) Stainless steel cages and toys and food containers are safe.
3) Scrubbing the new cage / wire with a wire brush and vinegar
4) Read through the tables in the article and familiarize yourself with some of the many potential sources of toxic metals.
5) Avoid your pet access to objects that are potentially life threatening.

Case report
Harold an 8-year-old male Pekin Duck presented with water droppings containing fresh blood, a wing droop and tail deviated to the left. His owners absolutely adored him and were determined to get him better.

Note the wing droop and abnormal stance, and also the hospital environment – supportive soft bedding, large water dishes, varied diet. Harold's was quiet.

Note the red watery droppings that may be seen in lead poisoning cases.

Note the multiple metal densities present in the gizzard. and also one in the cloaca.

Treatments for Harold:
1) Fluid therapy
2) Antibiotics
3) Metal trapping with inject able Calcium EDTA and oral D-D-penacillamine
4) Bulk laxatives
5) Crop feeding

We repeated the x-rays in 2 weeks and most of the metal densities had passed so surgery was not necessary, the blood in the droppings gradually cleared and Harold has made a good recovery.

Please send any questions to sacks@impaq.com.au attention talking birds – We will answer some queries in the following issues, please use this facility as many may have the same problems. We may not answer all questions.

Vomiting

Vomiting in Pet Birds by Dr Phil Sacks BSc BVSc Hons MACVs(Avian Health)

Vomiting is common in pet birds. It can be a sign of illness or part of courtship or pasrentinmg. Common causes of vomiting will be discussed brief mention of the most common causes and how we work up a vomiting case in our Veterinary clinic using a real example. Can birds vomit? The answer is YES – but it quite different from that in mammals. Firstly birds do not have a diaphragm and so there are no stroing abdominal contractions when vomiting. Secondly many birds can vomit voluntarily and do so as part normal life E.g. a mother bird bringing up "crop" contents to feed her babies or partner (SEE fig 1). Thirdly the vomit usually comes from the crop – which is a food storage organ located in the lower neck rather than from the stomach or intestines as in mammals.

The birds may present with one or more of the following symptoms:

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Fig 1 A red tailed Black Cockatoo inappropriately regurgitating food for its owner.

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Disease Causing Vomiting in Birds
1) Infectous disease- which include bacterial, viral fungal and parasitic disease
2) Metabolic diseaes- eg enlartged Thyroid , liver disease, peritonitis
3) Nutritional cause e.g. high protein diets.
4) Toxicity – Heavy metal toxicity (Zinc and lead are most common), plant toxicities
5) Physical obstructions – e.g. foreign body in the crop, overfeeding, tumors
6) Trauma esp. crop burn
7) Allergic – food
8) Behavioral – usually not pathological e.g. courtship behavior, crop milk feeding in pigeons (SEE FIGURE 1}
9) Cancer – causing nausea and obstructions
10) Iatrogenic / caused by treatmensts– from drugs esp. doxycycline, nitoimadazoles
11) Other – e.g. motion sickness when traveling to vet – show.

To help veterinarians work up medical caused of vomiting veterinarians often use the term regurgitation for finely controlled vomiting that is part of normal physiology that a healthy bird may do. They bob their head up and down and then bring up softened undigested food into their mouth and place the reguuritated food carfully in a desired place. Vomiting is more uncontrolled ejection of food from both the crop and stomach that is spat out, and flicked around the cage, often landing on the head and neck and is always a sign of diseae.

FIG2 A male budgerigar regurgitation fluid onto his whiskers and side of his head called "wet whiskers"

The four most common causes of vomiting in pet birds that we see in our clinic are:

1) Trichomoniasis or canker in budgerigars is a protozoan disease . Left untreated it is often fatal – we do crop washes (see figure 3) in newly purchased. budgerigars and birds we see for health checks for diagnosis.. Often the birds may show disease signs months after purchase. This is the same organism that causes canker in pigeons and doves.

2) Another common cause of vomiting is megabacterial associated fungal disease. This fugal disease often has a long incubation period i.e. it takes a long time for disease to develop after infection. And along with vomiting the birds show other gastrointestinal signs like loose droppings, undigested seeds in the droppings and generally " going light", with gradual weight loss.

3) Heavy metal poisoning associated with the ingestion of lead and or Zinc (see the..Issue of talking birds)

4) After crop dosing and injecting certain medications some birds will vomit..

Case report

Tzippy a 7-year-old male budgerigar was presented to Highbury Veterinary clinic –

HISTORY: The owner described repeated muscular neck movements and regurgitation. The vomitus had matted his little head feathers, and his droppings were becoming looser. He appeared to be loosing weight. He had times of appearing normal – i.e.: bright alert and active and then there were times he appeared quiet – sometimes sleeping longer that usual during the day.

Examination revealed : matted head feathers from vomiting – and low body weight evidenced by decreased pectorial muscle mass -

Routine testing was done:
1) A crop wash see Figure 3

Fig 3 A crop wash in a budgerigar Inserting a tube containing warm sterile lactate into the crop, injecting the fluid, massaging the crop and then drawing back on the syringe. In our case the result was negative – no trichomonas, no megabacteria, no infection or inflammation of the crop evident.

Step 2 A faecal smear evaluated under a microscope. The clinical pathology result showed normal intestinal bacterial flora.

Step 3 Bloods were taken from the jugular vein - We took about 1/8th of a ml enough to do the following tests: Kidney function, liver function, electrolytes, muscle enzymes, proteins and full blood count .. Results showed mild anemia and low blood proteins, and low calcium. Still No diagnosis.

Step 4 X RAYS or Radiographs (see figure 4)

Figure 4: The X-ray shows an enlarged proventriculus (see arrows) with delayed emptying of ingesta.

Tzippy was suffering from an adenocarcinoma of the proventriculus. This is an invasive tumor and had infiltrated the stomach muscle wall and affected the nerve supply and motility of the stomach. He was slowly starving. This was not the expected diagnosis, as malignant tumors of the stomach are unusual.
Cancer in Birds

Cancer in birds – How and Why by Dr Phil Sacks BSc BVSc Hons MACVs(Avian Health)
A significant percentage of well-cared for pets, will ultimately die of cancer. The reason being is that they are living longer and cancer occurs more frequently in older birds. Some of the reasons for the longevity include : Protection from the dangers of climatic extremes and predation, appropppiate diets, regular health checks, preventative and prophylactic treatments . Pet birds are living average life spans many times more than their wild counterparts and are often living about twice as long as pet birds a decade ago. This contrasts significantly with "wild" free roaming birds that have significantly shorter lifespans. As an example we saw 2 cockatiels over 20 years old and a budgerigar over 15 years old last week.

Why do our pets get cancer?

Almost every diagnosis of cancer is followed by the same question by the owner ... why? . There are many reasons and we don't understand them all. We and our companion pets were created with an "immune surveillance" mechanism whereby damaged cells anywhere in the body are recognized by the body's blood cells as foreign and destroyed. During our lives single "cancer" cells are often formed, from toxins, UV radiation etc – but they are removed before they can multiply and establish. If the cancer cells can evade the immune system cancer may develop.

What is cancer?
Cancer is an accumulation of cells derived from a single transformed cell, whose growth and replication occurs out of control. Cancer cells usually continue to grow after the stimulus that caused them is removed. Benign is a term used to define slow growing cancers whose cell types are not far removed from the original cell type, and the mass remains in the site of origin. Malignant cancers grow rapidly and extend beyond their site of origin. - – The fact that we are cancer free most of our life is a wonder in it self.

Some of the most common cancers that we see in domesticated birds in everyday Melbourne veterinary practice are spindle cell tumours of the connective tissues , carcinomas of the kidneys and reproductive systems, lipomas – in fat birds; and lymphoid tumours in pet chickens . As there are a growing number of the clientele we see are bonded to their birds, the birds presented at our clinic are often still at an early stage of disease and can be treated.

A typical case seen in October 2005 . – Billie is an 18 year old Sulphur Crested Cockatoo, with a lump on his elbow extending towards the shoulder. The lump is firm and growing rapidly. We start of with less painful non invasive diagnostic procedures.

Step 1: The Fine Needle Aspirate involves putting a very thin insulin needle into the lump and getting a few cells that we can examine under the microscope. This is done in house and the results are availibe within a few minutes. The result in Billie's case : malignant spindle cells, with no infection present.

Step 2: We took Radiographs of the wing and at the same time the whole bird to determine the extent and spread of the tumour. The tumour mass can be seen in the middle of the radiograph as a large circular mass just above the elbow and not extending to the shoulder.

Step 3: Under general anaesthesia with preoperative pain relief, and drip fluids we surgically remove the wing, Care is taken to keep the patient warm, keep the anaesthetic time short, and to minimize blood loss.

Sterile surgery – note the see through sterile drapes, the patient connected to anaesthetic via an endotracheal tube, there is very little blood loss, the wing to be amputated is wrapped in a sterile bandage.

Treatment involved amputation of the wing at the shoulder as we knew that the tumour was malignant. Billie had not being flying anyway due to the growth damaging the wing. Pet birds appear to cope well with wing amputations and the recovery is rapid. They seem to manage well afterwards even though they cannot fly.

Step 4: We Sent the affected mass to a pathologist that has an interest in birds. The lump was analysed so that we know the type of tumour and the likelihood of it reoccurring and also if the lump completely removed.

This is a picture from our pathologist: Dr Jardine at Vetpath At 400X magnification . The tumour can be seen (by the trained eye) invading the birds muscle tissue.

Dr Jardine reported the type of tumour and how malignant it appeared and importantly if it was completely removed.
This tumor was a fibrosarcoma occuring in older birds in the cockatoo group. The pathologist commented that spread to other organs was unlikely but that it may return near the original surgical site. Other treatment to consider are radiation therapy and cancer drugs injected into the tumour; some of these tumours can be treated without surgery.

To treat or not to treat – that is the question?

Our Advice to clients is gererally that we aim for "quality life!"

The goal outcome for cancer treatment in birds is different from that expected in man. We aim for complete cure but balance the therapy with Quality of life post treatment, minimal side effects. Rapid recovery from cancer treatment is important in the veterinary perspective. As oppposed in man, with a much longer life expectancy, the goal is often complete cure and people often experience the "side effects" and relatively toxic levels of drugs hoping for a complete cure.

Here is a picture of Billie one day post operatively, wearing a protective bandage, going home with his owner.

Caring for your Pet Budgerigar

Budgies evolved in Australia's dry interior. They have become one of the most popular pet birds in the world. Average life expectancy is about nine years but well cared for birds may reach their mid teens.

Housing and husbandry

Budgies can be kept in a large cage or aviary.

* Perches should be natural wood of varied diameters.
* Place feed and water dishes so that your bird will not contaminate them with droppings.
* Native Australian tree branches, gum nuts, grasses & greenery are excellent for behavioural enrichment & beak care. Change regularly.
* Avoid sandpaper on perches or cage bottom.
* Birds are not helicopters, to allow flight have a wide cage rather than a tall one.
* Avoid zinc and lead (e.g. some metallic toy, newly galvanised wire or feed dishes etc).

Diet

* Feed a combination of formulated budgie pellets or crumble and mixed seeds.
* Also give dark leafy green and yellow vegetables (spinach, silver beet, grated carrots, beans, peas, broccoli, seeding grasses, etc.) every day.
* Fruit may also be offered, as can multi-grain bread, pasta, chicken bones or other meat or chopped hard-boiled egg.
* Avoid chocolate, caffeine, alcohol or avocado as these may be toxic.

Common illnesses

* Psittacosis (now called chlamydophilosis), a disease humans can catch from birds;

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Budgerigar Health And Related

* Heavy metal (e.g. zinc or lead) toxicity from chewing metallic objects – costume jewelry, galvanised food or water containers, lead weights or toys;
* Feather mites, worm parasites & coccidiosis;
* 'Canker' (trichomoniasis);
* Bacterial infections, candidiasis and avian gastric yeast infections ('megabacteriosis');
* Cancer.

Health Care

* We recommend a health check (with testing as appropriate), when you acquire your new pet and each year thereafter, to check for and prevent common illnesses listed above.
* Because they are desert birds budgies may drink infrequently, consequently any form of drinking water medication may not be effective.

Birds often hide signs of illness and may only appear unwell when they are very sick. It is important to seek advice early if your bird looks unwell.

Send your thoughts and questions and queries to birdvet@iprimus.com.au and we will address some of your queries in later talking bird issues.
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