Hospital Care of the Sick Bird

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As well as specific treatment for the cause of the presenting illness, there are a range of supportive measures that are necessary to pull an ill bird back from the brink. To fully appreciate these requirements, it is necessary to first understand the sick bird.

Birds have, over many thousands of generations, developed a self-preservation system, sometimes known as the `flock protection mechanism'. In this system, a flock of birds will drive out and abandon any member of the flock that is showing signs of illness. These birds attract predators and are therefore dangerous to the flock as a whole. A sick bird will therefore try to compensate for the illness, and avoid showing any signs of illness, until it is so sick that it can no longer mask those signs. Birds in captivity have retained this mechanism, so that when a bird starts to appear to be ill, it is already past the point where it can no longer compensate by itself. Add to this the usual owner's reaction of "wait a few days and see if it gets better", and the veterinarian is presented with a very sick bird.

The veterinarian presented with a fluffed up, anorexic bird, its eyes shut and unable to perch, sick for "only two days" is dealing with a bird at death's door. You have to deal with hypothermia, dehydration and a negative energy balance before even trying to deal with the causative agent. Giving a bird in this state some antibiotic drops and sending it home is almost certainly a death sentence, both for the bird and for your reputation.

So what do you do?

Firstly, increase the bird's environmental temperature. A bird's normal body temperature is 41°C, made up of the ambient temperature and metabolic heat. A healthy bird can compensate for a low ambient temperature by eating more and increasing its metabolic rate, but a sick bird cannot do this. It will fluff up its feathers to try and trap warm air, but after a while will start to develop hypothermic shock. By increasing the environmental temperature, the bird is able to absorb more heat, and lessen its demand on the body. This increase in temperature can be achieved by as simple a means as placing a reading light beside the cage or by means such as humidicribs or intensive care units. Ensure that humidity is maintained, as dry heat can hasten dehydration.

Secondly, rehydrate the bird. If you assume that all sick birds are 10% dehydrated, and approach them accordingly, you won't go too far wrong. Mike Cannon has written an excellent treatise on avian fluid therapy in the 1991 Proceedings of the Sydney Post-Grad Committee (Proceedings 178, Avian Medicine, pp 14 to 17) and this should be mandatory reading. Basically, calculate the fluid deficit and the daily maintenance requirements, and aim at correcting the deficit over a 72 hour period (see box).

Thirdly, correct the negative energy balance by supplying nutrition and high energy foods. In a sick bird, this is probably best done by force feeding with a crop needle. A suitable daily regime might be *Poly-Aid* (Vetafarm) morning and night and a hand-rearing mix (Vetafarm or Roudybush) 2 to 3 times during the day. (Note - this is in addition to the bird's normal food.)

Finally, minimise stress. Keep the birds away from dogs and cats, in a quiet area of the surgery. Avoid excessive handling by ensuring everything is ready before getting the bird out of the cage.

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A 100 gm bird, assuming 10% dehydration, ∴ fluid deficit = 10 mL

Daily maintenance @ 50 mL/kg/day = 5 mL/day

∴ for first 24 hrs give half deficit (5 mL) plus daily maintenance (5 mL) = 10 mL

For second 24 hrs give ¼ of deficit = 2.5 mL plus daily maintenance (5 mL) = 7.5 mL

Repeat this for the third 24 hrs, and then after just the daily maintenance.

The bird should be accurately weighed first thing every morning. A sick bird gaining weight is probably on the road to recovery; maintaining its weight means you should reassess the treatment; losing weight - reassess the treatment URGENTLY.

Medication Techniques

After arriving at a diagnosis, it will then be time to commence medicating the patient. There are a variety of routes of administration available - orally (eye dropper or crop needle), in feed medication, water medication, parenterally (SC, IM, IV or intra-osseous) or by nebulisation. The choice of which method to use is dictated by a number of factors.

1. **Disease condition**

   Successful treatment relies on achieving therapeutic levels of the required drug in the target organ. Therefore, a critically ill bird is going to receive more benefit from injectable antibiotics and IV or IO fluids then it would from oral medications. A less critical case may be treated by the owner at home with drops. Some conditions dictate which treatment they should receive, e.g. intestinal candidiasis is usually treated by the oral administration of nystatin (*Nilstat*).

2. **Medication**

   Administration is often determined by the nature of the drug. Some antibiotics are very poorly absorbed from the intestinal tract (e.g. oxytetracycline). Therefore, therapeutic levels will not be achieved unless given parenterally. Other drugs are very irritant, and therefore are best given I/V. Still others are very unpalatable, and if to be given orally, are best given with a crop needle.

3. **Owner compliance**

   Firstly, never under-estimate the client's willingness to learn - most are quite capable of giving IM injections once shown how. However, some cannot - some won't even touch the bird!

4. **The bird, or the number of birds**

   A critically ill bird cannot tolerate a lot of handling, and therefore the rapid administration of

medication becomes vital to minimise stress. Other birds are so wild and unapproachable as to make handling almost impossible. Large numbers of birds, in an aviary situation, can make individual parenteral administration unrealistic.

All these factors must be considered when choosing the type of drug and the route of administration.

Methods

Crop Drenching

This technique is used to deliver accurate amounts of fluids and liquid medications directly into the crop. It should not be used on birds that are vomiting or have a slow emptying crop. The bird should be restrained, either by the person drenching it or by an assistant, and the head immobilised. The crop needle is inserted through the left side of the bird's beak, and is passed over the back of the tongue heading towards the right side of the throat. Be careful not to insert it into the trachea. The needle is then passed down into the crop, and must be palpated by the handler before any medication is delivered. The amount that can be given depends on the size of the bird - a budgie can take 1 to 3 mL, a cockatoo 15 to 20 mL.

Water/Feed medication

These types of medication are usually the least effective, but in a flock situation may be the only practical means. Effectiveness is affected by the drug's stability in water, palatability, absorption from the gut, and the amount consumed. Some drugs can be toxic if the birds drink excessively, e.g. when feeding young or in hot weather. Other birds, if low down in the pecking order or if too sick to eat or drink, may not get enough medication to have an effect. All these factors must be considered when using this form of medication.

Subcutaneous injections

This is used primarily for the administration of fluids. Large amounts can be safely given in the inguinal and inter-scapular areas. Care must be taken not to inject into the abdomen or air sacs. Only non-irritant drugs should be used.

Intramuscular injections

For many avian vets, this is the preferred means of giving antibiotics and many other drugs. It allows rapid and accurate administration with minimum stress to the bird (and the vet!). The bird is held vertically, with the abdomen facing the handler. The keel bone is palpated and the proximal and distal ends identified. The pectoral muscles lie either side of the keel, and can be safely injected into. The needle should be gently pushed through the skin and just into the muscle. If you strike bone, withdraw slightly before injecting. Only small amounts should be given at any one site - e.g. no more than 0.25 mL to a cockatoo. If larger amounts are required, multiple sites should be used.

Intravenous injections

Irritant drugs and bolus fluid therapy can be given by intravenous injections. The brachial vein, either where it crosses the inside of the elbow or runs up the inside of the upper wing, or the right jugular vein can be used. A 25 gauge needle is inserted, but do not draw back (except in large veins) as this may collapse the vein. Inject at a steady rate - generally the size of the needle will prevent too rapid a

flow.

Intra-osseous injections

This technique is used for the continuous administration of fluids; in the U.S.A. trials with parenteral nutrition via this route are been conducted. Ill birds can have a catheter inserted without an anaesthetic, but otherwise healthy birds will probably need to be anaesthetised. The wing is flexed at the wrist and the feathers around the alula are plucked and the area aseptically prepared. A metal catheter (an 18 gauge needle with a wire insert will often suffice) is then introduced into the distal ulna and then passed down the ulna as far as possible. It is then taped into place, the insert removed and the catheter is ready for use.

Nebulisation

This can be used for treating URTI in some birds. Methods and techniques are similar to those used for dogs and cats. High local levels of antibiotics can be achieved, but systemic levels are poor.