



Feather Damaging Behavior – It's more than just Plucking

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Feather damaging behavior (FDB) is a common, frustrating and perplexing disorder, both for the owner and the veterinarian. FDB is not only difficult to diagnose and treat but may be multi-factoral and may require a multifaceted approach for resolution or management. It is important to understand that in many, if not most cases, long term management will be required. For most birds, simple solutions simply don't exist.

At rainforest Clinic for Birds, our approach is to first and foremost try to differentiate between birds which are damaging feathers due to physical causes from those which are psychogenic or hormonal in etiology. It is important however to understand that many cases will have aspects of both physical and psychological causes.

Paired Skin/Feather Biopsies are used to diagnose and differentiate cases of inflammatory skin disease from FDB caused by psychogenic or hormonal disorders. In this procedure the bird is anesthetized and 2 growing feathers and a small section of skin surrounding each is removed to send to a pathologist. One sample is taken from an area of skin where the bird is plucking and another sample is taken from area of skin where the bird is not plucking or cannot reach (usually the head or neck).

The pathologist looks for inflammation around the blood vessels (perivascular inflammation) and the feather follicles (perifollicular inflammation). This is indicated by certain inflammatory cells (Lymphocytes and plasma

cells) collecting around these sites. This inflammation causes irritation and itching.

The theory behind paired skin/feather biopsies is simple. If a bird is plucking they usually have inflammation in that area if only due to the trauma of plucking. But if the bird has inflammation in an area where he cannot pluck, this is an indication that he has a systemic inflammatory problem such as an allergy.

We frequently find other problems such as bacterial infections in the follicles, fungal skin infections, nerve inflammation and even iron storage in the skin. If inflammation is not found in the unaffected site, we assume the bird is damaging the feathers because of a psychological problem rather than a physical one.

Other tests may be recommended at the time of the biopsy. Thyroid hormone levels may be tested to detect hypo-thyroids. Blood zinc levels may be tested to detect underlying zinc toxicosis. Sources for zinc toxicosis may include cages, bowls, toys, etc. Zinc

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toxicosis may need to be treated prior to initiation of anti-inflammatory therapy.

Birds may be sensitive to molds and often have low grade aspergillosis (infection with fungi of the genus *Aspergillus*). Treatment may enhance response to anti-inflammatory therapy. Environmental and dietary sources of excessive molds should be reduced as much as possible.

For this discussion-Inflammatory Skin Disease will be emphasized.

Inflammatory Skin Disease

Inflammatory skin disease (ISD) in parrots is a reflection of underlying allergic or systemic inflammatory diseases. The predominant clinical sign is plucking or damaging the feathers. In severe cases birds may mutilate the skin as well. Feather damaging behavior (FDB) associated with ISD can begin in birds less than 1-year of age, or may take years to develop. ISD, like allergies in humans or other animals, is a chronic, on-going problem. It cannot be cured; it must be managed for the rest of the bird's life.

Unfortunately at this time we do not have skin tests or blood tests by which we can determine what a bird may be allergic to.

The Rainforest Clinic Anti-inflammatory Diet

The goal of the anti-inflammatory diet is to reduce potential allergens, provide optimum levels of specific nutrients that help to control inflammation and enhance metabolism. We also try to balance Omega 3 and Omega 6 fatty acids, which has been shown in other species to reduce inflammation. Ideally in hypersensitive individuals, known allergens should be avoided as much as possible. Since we cannot test to determine which allergens should be avoided we must try to simplify the diet and reduce items known to be allergenic in mammals.

The anti-inflammatory diet consists of a staple pelleted (extruded) diet, an aqueous inflammatory (anti-oxidant) supplement, and oil based anti-inflammatory (anti-

oxidant) supplement and a list of suggested supplemental foods.

Kaytee HA diet should be the mainstay of the diet, preferably offered in limited quantities twice daily. The aqueous supplement and oil supplement should be added to the HA diet, preferably in half of the daily quantity provided twice daily.

The quantity of HA Diet offered should be approximately 8-12 % of the bird's body weight daily, divided into 2 meals. (Smaller birds will eat a higher percentage of their body weight). Preferably birds should be fed at the owner's mealtime to reduce begging for human foods. Supplemental foods and treats should be provided from the list below.

Palatability of the HA diet can be enhanced by adding fruit juices, warm water, or favorite soft foods or table foods.

If your bird will not eat a pelleted diet you may consider conversion of the bird. A weaning/conversion diet may be useful in conversion. If conversion is not successful, or you choose to utilize a seed mix as the basis of the birds diet the same supplements can be utilized but with some alterations in the basic program. Some birds may be allergic to flavors and aromatic agents used in some products.

If the bird is refractory to changing the diet a different inflammatory oil solution is tailored to supplementation of a seed diet.

Rainforest Aqueous and oil based supplements

The Rainforest Aqueous anti-inflammatory is a special blend of vitamins, minerals, Amino acids, enzymes and natural herbal anti-oxidants specifically selected to reduce inflammation in skin and other organ systems. A blend of oils designed to provide the optimum ratios of Omega 3, Omega 6 and Omega 9 fatty acids in addition to potent fat soluble anti-inflammatory compounds.

Suggested supplemental foods

Supplemental foods should be chosen from the following list, as these foods do





not contribute to skin inflammation. If the bird is begging for table foods at dinnertime offer these foods. They can also be used to enrich the diet and for treats. Supplemental foods should be offered in small quantities, preferably not exceeding 30% by volume of the total diet.

Cooked chicken
Spinach or Kale
Green Peppers
Green Beans
Cooked eggs
Almonds
Shelled Brazil nuts
Spirulina-(If Marine algae)
Olive Oil
Strawberries
Cantaloupe
Tofu
Garlic
Chickpeas
Pinto Beans
Soybeans (roasted)
Cottage Cheese
Sunflower seeds (limited quantity)
Black beans
Lentils

Hypothyroidism

Low resting T4 (Thyroid hormone) levels are frequently seen in birds with inflammatory skin disease. This may be due to concurrent inflammation of the thyroid glands.

Ideally a stimulation test (TSH Stimulation test) should be performed to verify the significance of the low resting T4 level. With this test blood is collected for a pre T4 level. The bird is then given thyroid-stimulating

hormone. Six hours later blood is collected for a second T4 level. The second T4 level should be 2-4 time greater than the initial baseline T4 level if the thyroid gland is functioning properly.

Supplementation of thyroid hormone may be recommended for your bird. Or initially iodine supplementation may help to correct sub-optimal thyroid gland function. We usually provide enough thyroid hormone to treat the bird for 60 days. Prior to using all of the thyroid hormone you should schedule retest of the T4 level to determine how the bird is responding and adjust the dosage as needed. The thyroid hormone can be administered in the drinking water (usual initial dose is 1 tablet (1 grain) in 8 oz of bottled (non-chlorinated) water. If you prefer to administer the thyroid hormone directly orally a suspension can be provided.

Antihistamines

Seasonal allergies often occur in birds with inflammatory skin disease. This may coincide with seasonal peaks in pollens, molds or other allergens. At these times some birds may benefit from treatment with antihistamines. But antihistamines don't seem to work for all species, and in some species these allergies may be mediated by some pathway other than by histamine. Macaws seem to benefit most from anti-histamine therapy. If antihistamines are used we prefer plain chlorpheniramine maleate without other ingredients such as decongestants. As this drug can be difficult to find over the counter, you can always obtain the drug from Rainforest Clinic for Birds. It is conveniently administered in the drinking water at the rate

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of 1 tablet in 1 cup (8 oz) of bottled water. Water administration works well because it allows continuous dosing, otherwise it must be given frequently. Some individuals respond well to children's liquid Claritin.

Bathing

Bathing is important for skin/feather condition. Bath the bird at least twice weekly but not every day as excessive bathing can dry the skin. Soak the bird with fresh water. Ideally the bird will be allowed to dry in sunlight. A solution of Aloe Vera Penetrans may be sprayed on the feathers and skin once weekly especially if the skin is very irritated.

It is important to avoid getting the oils on the bird's feathers, as they will cause discoloration. If oils remain on the feathers they can serve as a substrate for fungi to grow on the feathers. If this occurs a weekly misting of Nolvasan solution (diluted 1:10 in water) can prevent the spread of the fungus from infected feathers to new ones. Bathing with fresh water between Nolvasan misting will reduce build up on the feathers. Oil from your hands or oils from foods can also accumulate on feathers and be a substrate for feather fungus.

Monitoring progress

Improvement with anti-inflammatory therapy will be gradual, especially if feathers are broken, chewed or otherwise damaged because the bird must molt in order to replace the old feathers with new ones. Therapy must be continued for at least 3-4 months prior to assessing effectiveness.

Taking photos of the bird is a great way to monitor its progress. Preferably these photos should be taken in the same place with the same lighting each time for ease of comparison. Monthly digital photos are ideal.

When managing chronic problems, it is very important to give any therapy adequate time before stopping or changing treatment. As the inflammation resolves the bird will feel better and its attitude and personality usually improve as well. ■

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