Clinical Approach to Feather Picking Disorders in Pet Birds

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Feather picking is one of the most common presenting complaints in avian practice. It is a highly complex clinical sign, which has many potential etiologies. Often, the problem is multifactorial, with both medical and behavioral components. It can frustrate both the owner and the clinician. A systematic approach to the diagnosis and treatment of this complex of disorders provides the best hope of resolution., While many cases still will not resolve, a full assessment minimally assures that the feather picking bird is healthy and in an appropriate physical and social environment.

Two phases of diagnosis must occur. The first is to determine whether feather picking is indeed occurring. While this is often obvious, occasionally owners are unfamiliar with the extensive amount of time spent on preening in normal birds and may think the bird is picking. Sometimes owners will see the normal apteria when the bird is wet and mistake them for abnormal featherless areas. Feather picking should be suspected in birds with lesion distributions that exclude the head. The most common body sites for feather picking are the chest, under the wings, and on the rump. The least common are the flight feathers. The head feathers are spared unless the bird has learned to rub the head on the cage or other object (especially in budgerigars). The lost feathers will usually exhibit some damage from the beak. Some birds will pluck feathers out while others will chew the feathers in half or chew the barbs off of the shaft. The next phase involves the determination of the etiology or etiologies of the feather picking. This is the most difficult part. There are many causes of feather picking. Feather picking may be caused by medical problems and a thorough medical workup is indicated. (Algorithm 1) This is particularly true in smaller psittacines, which have a lower incidence of behavioral feather picking. A detailed history of the diet and husbandry should be taken, as malnourished birds may become pruritic. Any exposure to toxins or irritants, including cigarette smoke, should be ruled out as well. The workup should begin with a thorough physical examination. The distribution of feather damage should be described, mapped, and, if possible, photographed. It should be determined whether the feathers are being chewed, leaving the calami intact or plucked completely from the follicles. The skin should be examined for erythema, exudate, excoriation, crusting, hyperkeratosis, or any other abnormality. A complete blood count, chemistry profile, heavy metal screens, thyroid screening, feather and skin cytology or biopsy, a parasite evaluation of the feces, and radiography may all be indicated in selected cases. These may help pinpoint the cause of the problem or ensure that pre-existing problems are not present prior to the use of drug therapy. Liver, kidney, gastrointestinal or other internal diseases may be associated with feather picking. Intestinal protozoans are often associated with feather picking, especially in cockatiels.[1] The parasites may be seen on direct microscopic examination of the feces or an eosinophilia may be seen in the hemogram. Skin and feather follicle biopsies or cytology may reveal primary or secondary infections. Lymphocytic, plasmacytic dermatitis is commonly encountered in feather picking birds and may be associated with hypersensitivities. If all of the medical workup fails to reveal any problems, or if treatment of these problems fails to resolve the feather picking, the problem can be considered a behavioral disorder. At this point a detailed behavioral history should be taken to try to pinpoint the behavioral etiology. While some of these etiologies overlap, categorizing the problem can assist in choosing a therapeutic plan. Table 1 lists some proposed behavioral etiologies.

Algorithm 1: Diagnostic Approach to Feather Picking

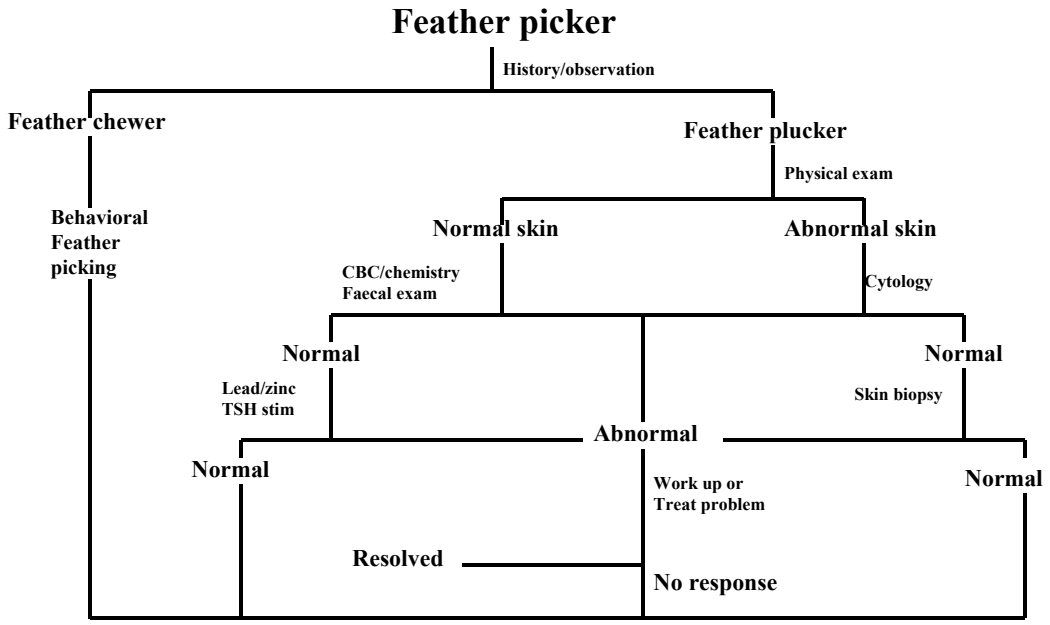

Table 1: Proposed Behavioral Etiologies for Feather Picking and Their Treatment

Features	Likely Diagnoses	Contributing Factors	Recommendations	Drug Therapy
Occurs when owner not present	Separation anxiety; Boredom	Endorphins; Habit	Before leaving: Bathing; Exercise; Meal feed; Special toy; Encourage independent play	None; Clomipramine
Occurs when owner present but not paying attention	Attention seeking behavior	Owners behavior (Drama, attention); Endorphins; Habit	Leave room when picking is seen; Encourage independent play; Reward good behavior with attention	None
Bird interrupts other behavior to pick	Obsessive/ compulsive disorder; True pruritis	Endorphins; Owners behavior (Drama, attention); Habit	Medical workup; Improve social setting; Remove feared objects; Habituate; Encourage independent play; Leave room when picking is seen	TCA; Haloperidol; Naltrexone
Bird exhibits signs of excess fear or stress; Systemic illness; Major change in household	Stress associated problem	Poor health; Endorphins; Owners behavior (Avoidance); Habit	Medical workup; Remove feared objects; Habituate to source of fear; Raise the cage; Behavior classes for owner/bird;	TCA; Haloperidol; Butorphanol; Naltrexone;
Problem starts at an extremely young age; handfed bird	Genetic; Improper preening; Poor early socialization	Endorphins; Owners behavior (Drama, attention); Habit	Improve social setting; Behavior classes for owner/bird; Leave room when picking is seen	Haloperidol; Naltrexone
Involves primarily remiges and retrices; Feathers frayed and splintered	Iatrogenic; Improper wing trim; Feather trauma	Endorphins; Owners behavior (Drama, attention); Habit	Change environment to minimize trauma; Feather imping; Remove damaged feathers under anesthesia	Butorphanol; NSAIDS
Overly bonded, sexually mature bird; Sexual behaviors occur out of context	Reproductive related	Owners behavior (Drama, attention); Habit; Endorphins	Avoid sexually stimulating; Limit day length; Remove nest-type structures; Limit high calorie and high moisture foods;	Leuprolide acetate, HCG; Progestins,

Any medical disorder encountered should be treated, whether or not it is connected with the feather picking. Low-grade medical problems may be the stress needed to set off feather picking in a bird with behavioral feather picking tendencies. Skin infections may occur as either an etiology or a consequence of feather picking. Bacterial and fungal infections (*Malassezia*) are occasionally seen. Treatment with appropriate antimicrobials is appropriate in these cases. Birds with repeated skin infections should be evaluated for hypothyroidism or potential hypersensitivities. If hypothyroidism is found, supplementation is indicated. If hypersensitivities are suspected, treatment is largely trial and error. Antigen reduction is the first point of attack. Antigens can contact the bird through the air, the skin, or the alimentary tract. Clean fresh air should be ensured

first. Appropriate air changes, outdoor housing, air filtration, and strict no smoking policies near birds can help minimize aerosolized antigens. Other birds, particularly powder producing species should not be housed near hypersensitive birds. Antigen contact with the skin can be reduced by thorough cleaning and rinsing of the bird's environment, frequent bathing, and hand washing by handlers. While antigen restricted diets are not available, putting birds on a formulated diet with no preservatives or artificial colors may keep the number of antigens to a minimum. If these measures are inadequate to control pruritis, treatments aimed at controlling the hypersensitive response can be attempted. Antihistamine treatments such as diphenhydramine inhibit one segment of the inflammatory cycle. As in canine patients, these drugs are effective in a relatively low proportion of feather picking birds. Tricyclic antidepressants are extremely powerful antihistamines and may be useful if pruritis is complicated by behavioral disorders. Omega 3 fatty acids have anti-prostaglandin effect, therefore working at a different part of the inflammatory process. Corticosteroids appear to have poor efficacy in controlling pruritis in birds and the potential for adverse effects make them a poor choice for this purpose. When medical etiologies have been ruled out or treated, behavioral modification is indicated. The behavioral patterns and social structure of these birds is extremely complex and when the social and developmental needs are not met, behavioral problems sometimes occur. Boredom, fear, stress, depression, and loneliness are all potential causes of feather picking. Some birds may become addicted to the endorphin response to feather picking. Behavioral or psychological feather picking is not a single disease state but a complex of several conditions leading to the same clinical signs. This fact explains the fact that most treatment protocols have a low rate of success. Some birds may have overlapping behavioral disorders. If these birds could be accurately diagnosed and treated in a more specific manner, success rates would be higher. Currently, methods of psychologic testing in birds are not available, leaving the clinician with detailed histories and trial and error as methods of determining what a patient will respond to. Clients should be warned that many birds will never stop feather picking. Several treatments may be given in succession until an effective solution is found. Behavioral modification, aimed at removing the initiating cause and redirecting the bird's attention toward more appropriate behavior, is often the first treatment attempted. Behavioral supportive care should first be provided by improving the physical and social environment of the bird. The cage, its location, the availability of appropriate toys, proper stimuli, and cleanliness are all critical to the physical environment. The social environment should be improved by ensuring that the bird develops a confident but submissive relationship with each family member.[6] Appropriate beak activity such as shredding toys should be encouraged so that it can be used in counterconditioning to an alternative beak activity. Bathing should be increased to encourage normal preening. Several weeks should be given for these changes to be effective. Restraint collars can be used to prevent feather picking but are only a temporary solution and are usually reserved for those birds that are mutilating skin or muscle. Injectable synthetic progesterone such as medroxyprogesterone is effective in some cases. Although birds that respond to this drug are often assumed to be sexually frustrated, there may be some direct calming effect or some anti-inflammatory effects of medroxyprogesterone. The sex of the bird does not greatly influence the efficacy of the drug. This drug should not be used repeatedly as side effects can be severe (obesity, polyuria, polydipsia, occasionally diabetes mellitus). If a bird responds well to medroxyprogesterone and to nothing else, chemistry profiles should be done prior to each injection to ensure no side effects are occurring. A safer alternative, at least for females, is human chorionic gonadotropin (HCG), which stimulates an increase in endogenous progesterone. This drug has minimal side effects but has a shorter duration of activity. Naltrexone, a narcotic antagonist has shown some promise in the treatment of behavioral feather picking. This fact supports the theory of endorphin addiction. By blocking the effect of endorphins, the bird will no longer be reinforced by the euphoric state, and will feel the pain of the plucked feather more acutely. Since this drug depends more on pain responses, it is less likely to be effective for feather chewers. It also should be considered a training aid as it replaces

reinforcement (endorphins) with punishment (pain). Acupuncture has been used with some efficacy according to a limited study. The response seems to be somewhat species related, with cockatoos being most responsive and African greys the least responsive. The acupoints are usually injected (aquapuncture) with vitamin B12 since it is difficult to keep needles in for 15 minutes. Birds may appear sedated following acupuncture. Several antidepressant drugs have been attempted for treating feather pickers. Most seem to have efficacy in about 10% or less of the birds tried, suggesting that depression is an uncommon cause of feather picking. On the other hand, tricyclic antidepressants are also powerful antihistamines as well, making them potentially useful for birds with true pruritis. Haloperidol, a butyrophenone traquilizer, reportably has shown some promise in the treatment of feather picking and self-mutilation. Many birds never respond making feather picking one of the most frustrating problems encountered in avian medicine. The feather follicles in chronic feather pickers may become nonfunctional and even if the behavioral problem is corrected the feathers may not grow back.

With such a complex, multifactorial disorder, sudden resolution is uncommon. When success is achieved, it occurs by gradual attenuation of the picking, followed by the gradual replacement of damaged or lost feathers. As such, owners and clinicians may not note the improvement without good record keeping. Each treatment plan should be followed for a minimum of 8 weeks. Both owner observations in the frequency of picking and visual changes in the plumage should be recorded. Preferably, photographs should be taken regularly to objectively assess regrowth.

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