Animal Behavior Case of the Month

This feature is sponsored by the American College of Veterinary Behaviorists. Readers of the JAVMA are invited to submit reports, which should include a brief description of a behavioral problem, the evaluation and treatment, and succinct discussion of the case.

Send contributions to Dr. Bonnie Beaver, Department of Small Animal Medicine and Surgery, College of Veterinary Medicine, Texas A&M University, College Station, TX 77843-4424.

Statement of the Problem

A Congo African Grey parrot was examined because of feather picking and self-injurious behavior of 8 months' duration. The behavior occurred at any time during the day or evening, regardless of whether the owners were or were not present.

Signalment

The bird was a 380-g (13-oz) 14-month-old Congo African Grey parrot. The bird was believed to be female; however, sex had not been confirmed by means of DNA testing or surgery.

History

The bird was obtained as a 2-month-old hatchling from a local pet store as a companion for the male owner, in whom neoplastic disease had recently been diagnosed. The bird was housed in a 61 x 61 x 91.5-cm cage that was located in the living room of the home. The bird spent approximately 16 h/d in its cage, with the balance of its time spent on a perch on top of the cage, in a screened porch, or with the owners. Time spent in the enclosed porch had been increased to about 3 h/d from the time the bird had been acquired. The bird was fed a commercial diet ad libitum and about 3 h/d from the time the bird had been acquired.

The bird was easily manipulated and did not show any signs of distress (eg, pupils were not flashing in response to approach or handling, there was no vocalization, and the bird readily obeyed the “up” command and climbed on the author's or owner's wrist) during the initial examination. After the first 5 to 7 minutes of the examination, the bird began to pick at its skin, regardless of whether it was in its transport cage, on top of the examination table, or on the author's or owner's wrist. The behavior could be interrupted briefly with a novel stimulus, but after a few minutes, the bird would resume its grooming efforts. To interrupt the behavior for the duration of the behavioral consultation, an Elizabethan collar was fitted on the bird. The bird did not protest but did spend the rest of the consultation period trying to groom itself where it could reach beyond the Elizabethan collar's edge.

Diagnosis

Possible causes of the bird's behavioral disorder that were considered included obsessive-compulsive disorder, attention-seeking behavior, metabolic disease, ectoparasitic disease, dermatologic disease, and disease attributable to a nutritional deficiency. Tests performed by the referring veterinarian ruled out diseases such as hypothyroidism, ectoparasitism, and dermatophytosis as the cause of the clinical signs.

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Although a blood sample was not submitted for a viral-specific DNA probe test or to determine the Psittacine Beak and Feather Disease titer, the clinical signs were not suggestive of beak and feather disease.3 Additionally, results of histologic examination of feathers were normal. Feeding a diet high in sunflower seed content or containing a high proportion of salty foods may predispose birds to inappropriate sociosexual behaviors or highly irritable and fragile skin, and inappropriate sexual behaviors, pruritus, or pain may motivate a bird to pluck its feathers excessively.5 However, this bird was fed a commercial pelleted diet,4 reducing the possibility that the feather-picking behavior was a result of a nutritional deficiency or imbalance.

On the basis of the nature and features of the bird’s clinical signs, and given that other medical disorders were eliminated, a diagnosis of overgrooming secondary to an obsessive-compulsive disorder, with secondary feather loss and skin excoriation, was made. Behaviors associated with obsessive-compulsive disorders are commonly derived from maintenance behaviors, but their performance is exaggerated in duration and intensity and unrelated to environmental and social contexts, and behaviors are performed to the detriment of the individual’s well-being. Onset in animal patients usually is gradual and progressive, although some owners report that the behaviors associated with obsessive-compulsive disorders develop acutely.7 Owners sometimes describe a stressful event that acted as a trigger for the compulsive behaviors, and this temporal association may lead owners of pets with obsessive-compulsive disorders to attribute the abnormal behaviors to this event. However, development of compulsive behaviors in response to an event that, although stressful, does not lead to development of similar behaviors in other animals suggests that animals with obsessive-compulsive disorders have an underlying predisposition to the disorder. Although age of onset is commonly near the time of social maturity, some animals may develop compulsive behaviors at an earlier age. Early in the progression of the disease, it may be possible to interrupt the behavior, but as the disease progresses, particularly in the absence of pharmacologic and behavior-modification treatment, the behavior may be stopped only because of exhaustion.

A diagnosis of attention-seeking behavior was ruled out, because the behavior continued in the absence of a reward. The bird was videotaped at home and found to perform the behavior for hours when the owners were absent.

Treatment

Treatment of obsessive-compulsive disorders involves a combination of psychotropic medication, behavior modification, and environmental modification.52 Clomipramine hydrochloride, a tricyclic antidepressant, was the selected pharmaceutical agent, because it is highly effective for treatment of obsessive-compulsive disorders in humans53 and widely used for treatment of similar disorders in animals.54 It was recommended that the medication be mixed by a compounding pharmacist, but the owners declined because of the added cost associated with compounding. The owners, therefore, prepared the medication themselves by mixing 25 mg of clomipramine in 7 ml of fruit juice. The initial dosage was 4 mg/kg (1.8 mg/lb) of body weight, PO, every 12 hours; this dosage was selected on the basis of the author’s experience with the drug and the expectation that the higher metabolism of birds will sometimes necessitate higher dosages of pharmaceuticals, compared with dosages used in mammals. The owners were made aware that use of psychotropic drugs in companion animals is an evolving art and science, and little or no information is available regarding use of psychotropic drugs in psittacines. Given the severity of the bird’s signs, the owners were willing to accept the risks associated with use of psychotropic drugs. Adverse effects of clomipramine in mammals include cardiac conduction abnormalities, tachyarrhythmias, postural hypotension, dry mucus membranes, urinary retention, constipation, and lowering of the seizure threshold.55 The owners signed a consent form for extralabel use and were advised to contact the author if they had any questions or concerns. They were instructed to continue all management practices that they had followed so far, including providing a pelleted diet ad libitum and offering fruit and vegetable treats on occasion, rotating toys in the cage and including some toys that could be chewed and shredded, providing scheduled play and interaction times with the owners, practicing simple commands (up, down, wing), allowing exposure to sunlight, and scheduling wake-up and bed time near dawn and dusk. In addition, owners were instructed not to punish or reward the bird for any grooming or compulsive behaviors.

Follow-Up

Nine days after the initial consultation, the female owner contacted the author with a progress report. The bird still was spending a large proportion of its time awake engaged in oral activities, with little time devoted to climbing, vocalizing, or perching at rest. The amount of time the bird spent manipulating a substrate with its beak was still large, compared with the amount of time dedicated to these other activities, but oral behaviors were redirected often toward its feathers and skin. The owner inquired about increasing the dosage but was informed that dosage adjustment could be pursued 2 to 3 weeks after the initiation of treatment.31 The owner did admit to giving 0.5 ml of the compounded clomipramine, because it was easier to draw this amount into a syringe. Therefore, the bird was receiving clomipramine at a dosage of approximately 4.69 mg/kg (2.13 mg/lb), PO, every 12 hours.

A month after the initial consultation, owners were restricting the bird’s access to food because of the increased appetite. The owners had noticed more growing and a general wariness. For example, the bird would run to the corner of its cage if the owner approached while holding a cordless telephone, clarinet, or other object. There did not seem to be any pattern to the color or shape of objects to which the bird reacted. Although some growing may be part of normal African Grey parrot behavior, fearfulness is not.
Owners had noticed some improvement in the bird’s skin condition. New feather growth on the underside of the wings and on top of the back was intact.

Paradoxical anxiety is reported as a possible adverse effect in human patients taking clomipramine. Therefore, the owners were given 3 options: addition of buspirone hydrochloride to the treatment regimen to treat the secondary anxiety, an increase in the dosage of clomipramine in an attempt to achieve better control over the self-injurious behavior but with the understanding that the secondary anxiety could worsen, or a gradual weaning off clomipramine and changing to fluoxetine hydrochloride for treatment of the obsessive-compulsive disorder.

The owner elected to increase the dosage of clomipramine. She was instructed to administer 2.5 mg (6.58 mg/kg [2.99 mg/lb]) every 12 hours. Two weeks later, the owner reported that for the first 3 days after the dosage was increased, there was an increase in the intensity of feather picking and the level of anxiety, but from then on, although the feather picking behavior did not improve, the fearful responses were no longer manifested. A new prescription was written for 50 mg clomipramine capsules. The owner was instructed to mix 1 capsule with 7 ml of fruit juice and to administer 0.5 ml of the mixture (3.6 mg, the equivalent of 9.47 mg/kg [4.30 mg/lb]) every 12 hours.

A month later, the owner reported that 10 days after the dosage was increased, the bird began to pick under its wings and all new feather growth. The bird would play with toys but would stop after a few minutes and would start picking at its skin and feathers. Further inquiries revealed that the owner had switched diets and was using a commercially available food that was highly colored. On the chance that additives were contributing to the changes in the bird’s condition, the owner was advised to return to the bird’s previous diet. A change in dosage of clomipramine was not recommended until after the old diet had been fed for at least a month.

Six weeks later (+ months after initial consultation), the owner called. She had increased the dosage to 1 ml (7.14 mg, or 18.8 mg/kg [8.5 mg/lb]) every 12 hours on her own and reported that after 6 days, the bird appeared to be hallucinating, was responding fearfully to things that were not there, and acting as if “she was seeing things behind her.” The owner was instructed to reduce the dosage to 3.6 mg every 12 hours over a 2-week period. To address the paradoxical anxiety, buspirone was prescribed at a dosage of 0.2 mg (approx 0.5 mg/kg [0.23 mg/lb]) every 12 hours. Once again, the owner elected to compound the medication herself, by mixing a 5 mg buspirone tablet in 10 ml of fruit juice and administering 0.4 ml every 12 hours. The owner was asked to call before any adjustments to the drug dosage were attempted.

Six and a half months after the initial consultation (6 weeks after addition of buspirone hydrochloride to the treatment regimen and adjustment of the clomipramine dosage to 3.6 mg, PO, q 12 h), the owner reported that intensity of the feather picking and self-injurious behavior was greatly decreased, and new feather growth was evident. Feather picking tended to occur at times of high emotional arousal, such as when the bird was taken out to the enclosed porch area, but could be interrupted by providing the bird a wooden chew toy. The owner was instructed to devise a routine daily schedule for the bird to eliminate uncertainty about the course of the day and the outcome of social interactions.

Seventeen months after the initial consultation, the owner reported that the bird was fully feathered except for its wing tips, which the bird would occasionally pick at; (the owner commented that it was unnecessary to clip the bird’s primary wing feathers). The owner reported that it had taken about 3 months after the final dosage adjustment before she could appreciate this level of control of the compulsive behavior. The inception of a daily routine had markedly decreased the bird’s excitability.

The bird seemed comfortable in its environment, preferred to be with and had apparently bonded with the male owner, and was picking up a small vocabulary of English words. The bird was maintained on clomipramine (3.6 mg, PO, q 12 h) and buspirone (0.2 mg, PO, q 12 h), and it was expected that the bird would require medication at this dosage for the remainder of its life. The owner was reluctant to consider weaning the bird off medication. Yearly physical examinations with a full set of ancillary tests (CBC, serum biochemical analyses, fecal floatation test, and examination of a fecal smear) were recommended. An examination by the referring veterinarian was recommended any time abnormal clinical signs were noticed by the owner. The owners were satisfied with the degree of control that had been achieved with the treatment protocol.

References