

# Animal Behavior Case of the Month

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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 a succinct discussion of the case.

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## Statement of the Problem

A dog was examined because of severe aggressive behavior directed at the owner for the preceding 2 years.

## Signalment

The dog was a 2.5-year-old castrated male German Shepherd Dog.

## History

The dog resided with a single female owner and her 11-year-old daughter. The owner had found the dog on the side of the road at approximately 6 weeks of age and adopted it. The first aggressive episode occurred in the morning when the dog was 6 months old. The owner had withheld food overnight because the dog was scheduled to be castrated that day, and the dog had stolen some food from the garbage can. The owner cornered the dog and yelled at it, whereupon the dog started growling at the owner and seriously bit her on her forearm when she attempted to retrieve the food.

After this first biting incident, the owner sought the assistance of a trainer. The dog was taken to a group obedience class and fitted with a choke collar. During the class, the owner was instructed to tighten the choke collar, pin the dog to the ground, and stand on the chain whenever the dog failed to obey a command. A second aggressive episode occurred when the owner attempted to use this method of correction while doing basic obedience exercises at home. The dog yelped as if the choke collar was causing pain, then bit the owner several times.

The owner consulted her regular veterinarian about the dog's aggression problem and was advised to be more assertive with the dog. A private trainer was recommended by the veterinarian. This trainer reportedly used a whip on the dog and advised the owner to use a belt on the dog when it failed to obey commands or displayed aggressive behavior. No food, treats, or water were allowed during these training sessions. The owner stopped using this trainer after 6 sessions because his methods made her so uncomfortable.

The aggressive behavior continued to escalate. The

dog would growl at the owner and show its teeth whenever she reached toward the dog or over its head. Reprimands of any type, whether verbal or physical, would provoke aggression. The dog occasionally attempted to hide in response to verbal reprimands, but would consistently attack if physically corrected or cornered.

Over a 2-year period, there were approximately 8 episodes of serious aggression, all directed at the owner. If the dog had a stolen object, the owner's daughter was able to retrieve it without incident. However, if the owner attempted to retrieve the object, the dog would become aggressive.

Because of growing concern for her daughter's safety, the owner began to tether the dog to a door while she was at work with the dog's choke collar and leash. She routinely put the dog in a crate whenever the dog misbehaved, and the dog had begun to lunge and attack after she closed the crate door. The dog slept in bed with the owner and would occasionally growl at her if she startled it during the night. If reprimanded, the dog would bite.

The owner provided a videotape of the dog taken several hours after an aggressive episode. The dog was wearing its choke chain and leash, which was attached to the bedpost. As the owner attempted to approach, the dog barked, growled, and lunged. Its forelimbs were flexed with its weight shifted away from the owner, its head was down and ears were pinned back, and all of its teeth were exposed. It appeared that the dog did not make eye contact with the owner during this videotaping session. During the consultation, the dog appeared to be relaxed while playing with the owner's daughter. Any attempts by the owner to interact with the dog caused the dog to flatten its ears and avert its gaze.

## Physical Examination Findings and Laboratory Results

The dog weighed 27.3 kg (60 lb). Results of a physical examination were unremarkable. In particular, there was no evidence of any condition that could be causing pain. Pelvic radiographs taken recently were normal. Results of a neurologic evaluation were normal.

## Diagnosis

Differential diagnoses that were considered for the aggression included dominance-related aggression, fear-induced aggression, possessive aggression, and pain-elicited aggression.<sup>1-5</sup> Potential medical causes for the aggressive behavior were also considered, including infectious CNS disease, hypothyroidism, episodic dyscontrol, and temporal lobe epilepsy.<sup>5,6</sup>

Dominance-related aggression was considered because the aggression was directed at a family member and occurred when the owner displayed dominant social signals, such as reaching over, handling, or dis-

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ciplining the dog.<sup>3,7</sup> Aggression had also occurred in the context of disturbing the dog while it was resting. However, dominance-related aggression was ruled out because there was no history of dominance signaling by the dog, including an ears-forward posture, raised tail, direct eye contact, or attempts to stand over family members. In addition, the young age of onset made dominance-related aggression less likely, since it tends to appear at social maturity.<sup>2-3,7</sup>

Possessive aggression was considered because the dog had been aggressive toward the owner while in possession of certain objects. This problem can occur in dogs of any age.<sup>3,3</sup> However, other individuals were able to retrieve objects from the dog. Also, the context of the dog's aggressive behavior toward the owner was not limited to situations involving possessions, making this an inadequate explanation for the behavior.

Painful situations have the potential to lower the threshold for other types of aggression, such as fear or dominance.<sup>3</sup> Pain-elicited aggression was ruled out on the basis of the normal physical examination findings and the dog's lack of aggression toward the veterinary staff in response to physical manipulations. Pain may have been a factor in the development of the problem when the owner and the trainers used harsh physical corrections.

Potential medical causes for the aggression were considered. The owner was unwilling to pursue any further diagnostic testing at the time of the consultation, and medical conditions seemed less likely owing to the dog's apparent good health. A serum biochemical profile, CBC, and thyroid panel were suggested.

A diagnosis of fear-induced aggression was made because aggressive behaviors were accompanied by defensive, fearful, or submissive postures.<sup>8</sup> The dog's postural signals were consistent with fear, which included holding its ears back or to the side, crouching, and avoiding eye contact.<sup>9</sup> The dog had a history of attempting to avoid the owner when reprimanded.

Inappropriate use of punishment has been cited as a common cause of fear aggression.<sup>3</sup> The dog's aggressive behavior was probably directed at the owner because she was responsible for the dog's early training experiences and the dog associated her with these unpleasant experiences.

Genetics and environmental conditioning can influence fear responses. The aggressive behavior was reinforced when the fear-evoking stimulus (the owner) was removed in response to the aggression and when the owner attempted to comfort the aggressive dog. Inherited temperament may play a role in determining the threshold for a fear response.<sup>3,7</sup>

## Treatment

The prognosis for the dog was judged to be guarded to poor because of the chronicity of the condition, severity of the attacks, and risk of major injuries to the owner, her minor child, and anyone else coming in contact with the dog.<sup>3</sup> Euthanasia was deemed to be the safest option and the only way to prevent further injury. The owner was unwilling to consider euthanasia and signed a treatment waiver form assuming responsibility for her dog's future behavior. Safety issues were

stressed, and the owner agreed to restrict the dog's access to her daughter and others.

Because all physical corrections and punishments were contraindicated, it was recommended that the dog be kept in a harness with a leash attached, rather than the choke collar. The use of a head collar was considered, but there was concern about whether the owner could apply the collar safely without provoking an attack. Instead of confining the dog to a crate or tethering the dog, the owner was instructed to restrict the dog to a room in the house. The use of other anxiety-evoking stimuli was discontinued, including leash corrections, the belt, verbal reprimands, and physically holding the dog down. The owner was directed to identify other situations or activities that evoked fear or anxiety and avoid them whenever possible. The dog was no longer allowed to sleep on the owner's bed.

The first step in the dog's treatment was to teach the dog to relax in the owner's presence. The owner was informed about canine communication and the meaning of different postural responses.<sup>9</sup> The owner was instructed to offer positive reinforcement, specifically food rewards and quiet verbal praise, whenever the dog held its ears forward. Any fearful postures from the dog were ignored, and the stimuli or situations that provoked them were avoided. Once the dog consistently demonstrated relaxed postures around the owner, the owner was to start training sessions in which the dog was asked to sit and stay and given food rewards on a continuous reinforcement schedule as long as the dog remained relaxed.<sup>10</sup> The owner was instructed to reduce potentially threatening gestures by sitting, not reaching over the dog's head, and avoiding direct eye contact with the dog during command training. Desensitization and counterconditioning techniques would be used eventually to teach the dog to tolerate being approached and reached for by the owner.<sup>11</sup>

No psychoactive medications were used in the management of this case because of concerns about potential unexpected effects, such as increased agitation, that could increase the risk of injury.<sup>7</sup> There were also concerns that the owner would have unrealistic expectations about drug treatment and become complacent about the behavior modification exercises.

## Follow-up

At the 1-week follow-up examination, the owner reported having implemented all suggestions. She reported that the growling had decreased and the dog seemed more relaxed. The dog was able to sit with its ears forward and relax as the owner dropped food rewards, but the owner was unable to stand over or reach for the dog.

After 6 months of continued treatment, the owner felt comfortable that she knew how to avoid eliciting aggressive behavior from the dog. The dog had begun to play more and even sat in the owner's lap for attention. Only 1 episode of aggression had occurred since the initial consultation. The dog had cut its footpad and growled at the owner when she attempted to examine it. She took him to the veterinarian to be evaluated without incident. The owner agreed to allow her

veterinarian to do all physical manipulations when injuries occurred. Desensitization and counterconditioning exercises were proceeding smoothly, and the owner was able to pet the dog on the head and put on the dog's leash.

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