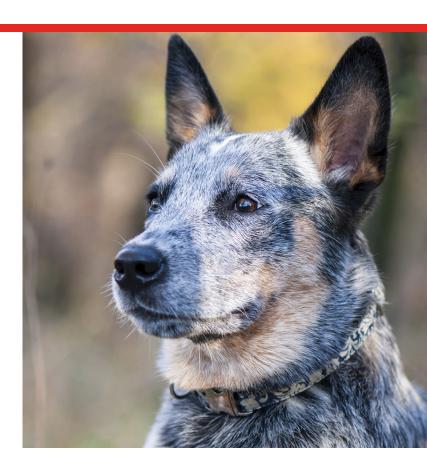
## **Territorial Aggression** in a Dog

Lore I. Haug, DVM, MS, DACVB, CABC Texas Veterinary Behavior Services Sugar Land, Texas



Ruger, a 2-year-old intact male Australian cattle dog, was presented after biting a man walking past the owner's house. The bite tore through the man's jeans and inflicted 2 shallow punctures and several scrapes along the back of the thigh. In the past, the dog has been sociable and friendly during regular visits to the clinic.

#### History

Ruger was acquired as a 10-week-old puppy from a local breeder. He attended puppy class at 16 weeks of age, where he barked at some of the other puppies but otherwise did well. At approximately 10 months of age, Ruger began barking and growling at humans walking past the house and at unfamiliar visitors who entered the house. These behaviors escalated over the next year.

The dog spent a lot of time alone in the backyard during the day. The yard backed up to a golf course and was enclosed by a 5-foot-high wrought iron fence. Ruger consistently ran along the fence barking and growling at humans, other dogs, or golf carts passing by. Six months before presentation, Ruger began barking at dogs and certain humans when he was out walking near the house. He did not bark at dogs or humans at the veterinary clinic or in the homes of friends or relatives. He attended pet daycare one to 4 times per month and regularly visited the dog park without incident. Medical history was unremarkable.

#### **Physical Examination & Behavior**

Ruger wagged his tail and solicited attention from the clinic staff during the visit. He readily took treats and responded well to his name and a verbal cue to sit. Physical examination was unremarkable.

## **DIAGNOSIS:**

# TERRITORIAL AGGRESSION RESULTING FROM EXTENDED TIME OUTSIDE AND REINFORCED BEHAVIOR

#### **Discussion**

Some dog breeds—typically guarding breeds and herding breeds—appear to have a low threshold for developing excessive territorial aggression.¹ This may be compounded by inadequate or inappropriate socialization, leading to a comorbid diagnosis of fear aggression. However, behavior—aggressive or otherwise—is always a reaction to some aspect of the dog's environment, rather than an aspect of the dog itself. Genetics and perinatal experiences do affect the likelihood with which some behaviors develop, but appropriate environmental conditions must exist for the behavior to be expressed.

Testosterone can mediate offensiveness, competitiveness, and aggression in some contexts. However, many intact male dogs do not show behavior problems. In fact, a slowly growing body of research suggests that gonadectomized dogs may be at higher risk for expressing certain behavior (eg, anxiety, aggression) than intact dogs.<sup>2-4</sup>

Territorial behavior is not a result of dominance or pack hierarchy and is, actually, normal in dogs. Even extremely sociable dogs will generally bark to announce the arrival of someone onto the owner's property. In domestic dogs, the territory generally encompasses the owner's house and yard. Dogs may also defend the space in and around a vehicle or cage. Territorial behavior tends to be most intense directly along boundary lines. Unlike fear aggression, which often manifests at an early age, territorial and protective behaviors generally begin at around 8 to 10 months of age<sup>5</sup> and escalate over the next 12 to 24 months, particularly if the dog's environment is not carefully managed.

The primary concern in this case was the time Ruger spent outside unsupervised rehearsing aggressive territorial reactions. Every behavior serves a function for a dog; when the dog barks and chases someone or something along the fence and it leaves, the territorial behavior is reinforced. Barriers tend to escalate these reactions.

Many dogs have intense reactions at the front door. The level of arousal rehearsed there can lead to biting behavior, even in otherwise friendly dogs.

During Ruger's bite episode, he performed the same behavior that he did every day but was able to reach the trigger by breaking through the fence. There is a higher risk for bite by an escaped dog that spends a lot of time patrolling the perimeter of the property, fence running, and barking at humans and other animals from the home.

#### Management

The first treatment intervention included only allowing Ruger outside time while supervised and to avoid situations in which he practiced aggressive responses to humans or dogs. A program of basic obedience was also initiated; the owner was instructed to begin training an alternative response when Ruger saw humans on walks or when he was in the yard.

#### The Take-Home

When managing any behavior problem, it is crucial to evaluate the patient's environment and the context in which the problem behavior occurs. Information regarding the animal's environment is often far more important than information about the animal itself (eg, signalment). A clinician must be aware of environmental factors that trigger the behavior or allow the animal to perform the behavior to make recommendations to prevent the animal from rehearsing—and therefore receiving reinforcement—for the behavior.

See page 33 for references.

- 12. Haskins SC, Peiffer RL Jr, Stowe CM. A clinical comparison of CT1341, keta-mine, and xylazine in cats. Am J Vet Res. 1975;36(10):1537-1543.
- 13. Haskins SC, Farver TB, Patz JD. Ketamine in dogs. Am J Vet Res. 1985;46(9): 1855-1860.
- 14. White PF. Ketamine update: its clinical uses in anesthesia. Semin Anesth. 1988;7:113-126.
- 15. Wagner AE, Walton JA, Hellyer PW, Gaynor JS, Mama KR. Use of low doses of ketamine administered by constant rate infusion as an adjunct to postoperative analgesia in dogs. JAm Vet Med Assoc. 2002;221(1):72-75.
- 16. White PF, Schüttler J, Shafer A, Stanski DR, Horai Y, Trevor AJ. Comparative pharmacology of the ketamine isomers. Br J Anaesth. 1985;57(2):197-203.
- 17. Rossetti RB, Gaido Cortopassi SR, Intelizano T, de Lima Machado TS, Ferreira da Cruz RS. Comparison of ketamine and S(+)-ketamine, with romifidine and diazepam, for total intravenous anesthesia in horses. Vet Anaesth Analg. 2008;35(1):30-37.
- 18. Waterman AE. Influence of premedication with xylazine on the distribution and metabolism of intramuscularly administered ketamine in cats. Res Vet Sci. 1983;35(3):285-290.
- Heavner JE, Bloedow DC. Ketamine pharmacokinetics in domestic cats. Vet Anesth. 1979;6:16-19.

#### References

- 1. Blackshaw JK. An overview of types of aggressive behavior in dogs and methods of treatment. Appl Anim Behav Sci. 1991;30(3-4):351-361.
- 2. Guy NC, Luescher UA, Dohoo SE, et al. Demographic and aggressive characteristics of dogs in a general veterinary caseload. Appl Anim Behav Sci. 2001;74(1):15-28.
- 3. Zink MC, Farhoody P, Elser SE, Ruffini LD, Gibbons TA, Rieger RH. Evaluation of the risk and age of onset of cancer and behavioral disorders on gonadectomized Vizslas. JAm Vet Med Assoc. 2014;244(3):309-319.
- Kim HH, Yeon SC, Houpt KA, Lee HC, Chang HH, Lee HJ. Effects of ovariohysterectomy on reactivity in German Shepherd Dogs. Vet J. 2006;172(1):154-159.
- Lindsey SR. Intraspecific and Territorial Aggression. Handbook of Applied Dog Behavior and Training. Ames, IA: Iowa State Press; 2001:219.

### **LOOK FOR THESE ARTICLES IN FUTURE ISSUES**

- **Emergency Room Corticosteroids**
- Nasal Discharge in Dogs
- Step-by-Step History Taking
- Blood Smear Image Gallery
- Top Viral Dermatoses



The VetBedJet helps keep patients warm during surgery and recovery.





