Comparison of two antibarking collars for treatment of nuisance barking

Article *in* Journal of the American Animal Hospital Association · May 1996

DOI: 10.5326/15473317-32-3-231 · Source: PubMed

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Comparison of Two Antibarking Collars for Treatment of Nuisance Barking

Two commercially available antibarking collars (i.e., a citronella spray collar and an electronic shock collar) were evaluated for efficacy and user satisfaction as reported by owners after a two-week trial period for each collar. While both collars were effective in decreasing barking (88.9% for the citronella spray collar and 44.4% for the electronic shock collar), most owners expressed a preference for the citronella spray collar. Owners perceived it as being more humane and indicated that they willingly would use it on a long-term basis to decrease their dogs' nuisance barking. While the citronella spray collar has some drawbacks, it is another tool for managing excessive barking.

J Am Anim Hosp Assoc 1996;32:231–5.

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Introduction

Nuisance, inappropriate, or excessive barking previously has been reported to comprise between 12.9% to 35% of complaints by owners surveyed regarding their dogs' behavior problems.[1-3] Although barking represents a small percentage (i.e., less than 4%) of cases presented to referral behavior clinics,[3] it may be brought to the attention of general practitioners more often, perhaps as a casual comment rather than as a request for advice per se. In some cases, nuisance barking may be manageable with behavior modification, but some owners may be unwilling or unable to provide consistent and appropriate corrections. In other cases, the misbehavior occurs in the absence of owners, which makes it almost impossible to deliver corrections when needed.

The various antibarking devices commercially available have anecdotal rates of success. There is a compact unit[a] that emits a high-frequency sound as punishment for barking; the unit comes in two models—one which is hand-held and activated by the dog's handler, and one with a built-in microphone which is bark-activated. Another bark-activated collar,[b] also uses sound as punishment. The most successful antibarking devices, electronic shock collars, stir controversy over their humaneness, degree of correct use, and potential for abuse.[4] Yet, for owners faced with multiple complaints from local enforcement agencies, decaying neighbor relations, or threats of eviction from their landlords, the use of electronic shock collars may have been the only option with which they felt comfortable. These collars deliver an electronic shock of variable intensity (depending on the model) as a correction, which may be administered automatically if the collar is equipped with a sensor, or remotely by a hand-held transceiver.

In the spring of 1995, a new type of antibarking collar became available in the United States. The citronella spray collar[c] relies on a microphone to pick up the sound of a dog's bark. A spray of citronella solution is discharged from a reservoir that is fastened around the dog's neck by an adjustable, nylon, web collar.

In the authors' experience, antibarking devices that use sound as

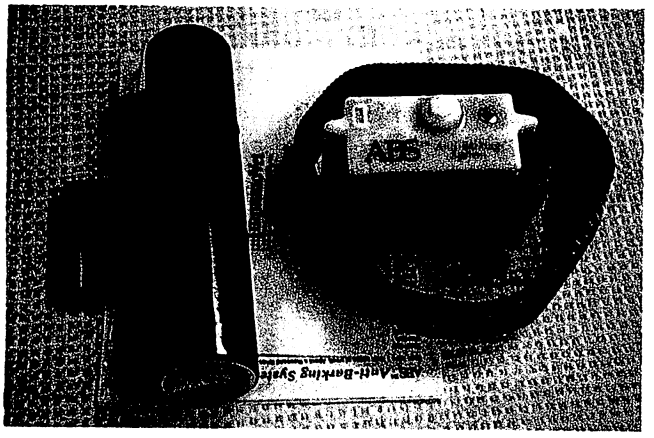

Figure 1A

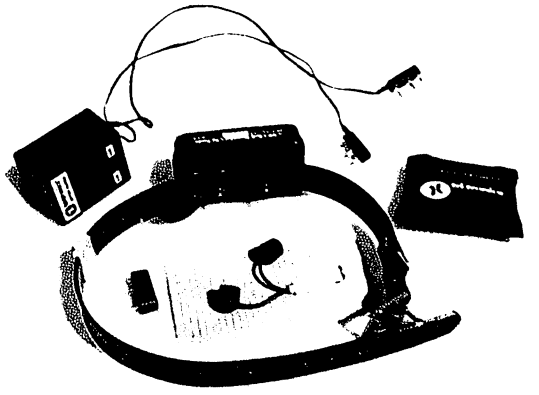

Figure 1B

Figures 1A, 1B—Two antibarking collars were used in this study. The citronella spray collar (A) is a good alternative method for management of nuisance barkers when compared to the electronic shock collar (B).

punishment have low success rates in the treatment of nuisance barking. Collars that rely on electronic shock as a correction are more effective, but their appropriateness is controversial. Many owners disapprove of their use, and both authors refrain from recommending electronic shock collars except in cases where other behavior modification methods have failed. The authors were interested in assessing the effectiveness of the citronella spray collar, and a comparison with an electronic shock collar was deemed appropriate. The electronic shock collar used in this study shuts off the delivery of shock if the dog wearing it ignores the correction and continues to bark; this was a decisive feature in its selection for use in this study.

The purposes of this trial were to compare the efficacies of the citronella spray collar and the electronic shock collar as barking deterrents, and to obtain information from owners regarding the usage of these devices.

Materials and Methods

Owners of dogs that bark excessively contacted the Animal Behavior Clinic at Cornell University after learning about the study through a local newspaper and radio news releases. Each owner was sent an 11-page questionnaire in order to determine if the dog was eligible for inclusion in the trial. Dogs with any signs of aggression toward owners or strangers or with multiple (i.e., three or more) behavior problems were not included. Nine cases started the study, and eight completed it. Although most of the cases could be diagnosed as nuisance barking, two cases showed signs of mild separation anxiety (i.e., howling when the owner left) and moderate attention seeking (i.e., barking when ignored), respectively.

The two collars used in the study were a citronella spray collar[c] and an electronic shock collar[d] [Figures 1A, 1B]. Each case randomly was assigned to wear one of the collars for two weeks, followed by seven days when no antibarking collar was to be used. The other collar then was to be worn for two weeks, after which the trial concluded. Except for providing owners with instructions on how to operate and fit the collars, no other behavior modification recommendations were given; the collars were to be the only bark-deterring tools. In some cases, owners may be reluctant to use antibarking devices 24 hours a day; therefore, each owner was told to have the dog wear the collar whenever the problem was likely to occur. The owners were unaware that other behavior modification suggestions would be given if both collars failed to decrease the barking after the five-week period was over. At the end of each two-week period, an evaluation form was given to each owner to rate the efficacy of the collar used. Owners were to report changes in frequency (i.e., episodes/day), intensity (i.e., loudness), and duration (i.e., barks/episode) as much greater, greater, about the same, less, or much less than before use of the collar. They also were to note their respective dog's response to the collar's correction and any other changes in behavior. General comments about their feelings toward the collar were encouraged.

Results

Overall efficacy for either collar was deemed satisfactory if the owner reported the frequency of bark-

ing as being less or much less than before collar use. For the citronella spray collar, seven (77.8%) out of nine owners reported a decrease (i.e., less or much less) in all the indices measured. In one (11.1%) case, the intensity of barking remained the same, although the frequency and duration were much less than before collar use. Overall, eight (88.9%) of the owners reported satisfaction with the citronella spray collar. All but one owner expressed a preference for this collar over an electronic shock collar, even if both were effective in curtailing barking, mainly because the owners disliked the idea of using electronic shock for punishment and felt the citronella spray did not hurt their dogs. They also could tell if the collar was working, because they could see and hear when a correction occurred. The citronella spray was not bothersome to owners; one owner found the scent preferable over her dog's body odor.

For the electronic shock collar, two (25%) of eight owners reported a decrease (i.e., less or much less) in all three indices measured. Four (50%) of eight owners reported no change at all, and two (25%) owners reported a decrease in frequency with some or no change in duration but unchanged intensity of the barking episodes. Overall, four (50%) of the owners reported satisfaction with the electronic shock collar. For the failure cases, owners commented that the dogs seemed to "choose to put up with the shock and bark anyway." Some dogs made a painful cry, then continued barking; others did not react in any way the owners could see. The manufacturer provides a testing device with each collar that enables the user to check for its proper functioning according to specifications. Owners did not have a problem with the operation of the electronic shock collar and did not object to having to charge it overnight, every night.

The one case that did not complete the study (the single citronella collar failure) was an older, spayed female, mixed-breed dog that had been isolated outside the home for about one year after having been a mostly indoor dog all of her life. This dog was not fitted with an electronic shock collar, because such a device was deemed inappropriate for her case by the investigators. The Table summarizes the responses owners provided on the questionnaires.

Discussion

It is difficult to change a dog's motivation for barking. Dogs bark most commonly in response to the sound of other dogs barking,[5] but nuisance barkers may bark because they tend to be highly territorial or because barking is a learned, attention-seeking behavior. Some herding breeds, many hunting breeds, and some terriers have been selected preferentially for their barking abilities. In the end, barking must be qualified as a mostly normal behavior of dogs that can become a problem in certain settings. If bark inhibition is not taught correctly and effectively to dogs as puppies or whenever they first join a household, a problem may develop later when the frequency and decibel level are more than human ears can tolerate.[6]

Correction of nuisance barking can be a frustrating endeavor. Punishment is an option, but it must be applied in a timely and consistent fashion and provide an adequate, aversive stimulus to discourage the recurrence of the misbehavior. In many cases of nuisance barking, the owners either are absent or unable to punish their dogs properly. Mechanical devices which facilitate appropriate correction can be helpful in overcoming this problem.

Although an electronic shock is deemed unpleasant by most humans, it may not be adequate to deter some dogs from barking; their pain threshold may be such that the discomfort of a shock correction is ignored. A citronella spray antibark collar gives a different option to owners who have been reluctant to use electronic shock collars. Given the dog's sense of smell, it could be that a strange odor may be less tolerated than a presumably painful stimulus, and more effective than expected in discouraging dogs from barking. This was the case with eight of the nine dogs that participated in the study.

The most commonly reported problem with the citronella spray collar is an inappropriate discharge of citronella in response to noises other than the dog's barking. This problem can be solved by decreasing the sensitivity of the microphone, which the owner can adjust at home. This is an important consideration, because punishment for a misbehavior must not occur at random or the dog will be unable to discriminate the reason for punishment. The microphone's sensitivity could be a problem in a multiple-dog household; even if all "barkers" are fitted with the device, it is possible that the collar will pick up a neighboring dog's bark, thus punishing the wearer even when it is quiet. The electronic shock collar used in this study relies on a vibration-sensitive diaphragm that rests against the dog's ventral cervical area, so extraneous noises do not cause it to discharge.

Table

Owner Evaluation of Collar Effectiveness Grouped by Order in Which Collars Were Worn

Citronella Spray Collar Followed by Electronic Shock Collar

Breed	Age (yrs)	Sex*	Barking			Comments	Barking			Comments
			Frequency	Intensity	Duration		Frequency	Intensity	Duration	
Shetland sheepdog	1.5	MC	Less	Less	Much less	Calmed down overall	About the same	About the same	About the same	Didn't phase him at all
Beagle	1.5	F	Much less	Much less	Much less	Wouldn't use collar during hunting season	Less	About the same	About the same	Chose to bark through shock
Bullmastiff	2	FS	Much less	Much less	Much less	Collar too sensitive; had to adjust sensitivity	About the same	About the same	About the same	Kept on howling and barking
Shepherd mix	13	FS	About the same	About the same	About the same	When collar sprayed, dog would lick, but still barked	NA†	NA	NA	NA

Electronic Shock Collar Followed by Citronella Spray Collar

Breed	Age (yrs)	Sex	Barking			Comments	Barking			Comments
			Frequency	Intensity	Duration		Frequency	Intensity	Duration	
Cocker spaniel	4.25	FS	Much less	Much less	Much less	Startled her; stopped her barking	Less	Less	Less	Muffled her barking; more obedient to other commands
Shepherd mix	4.25	MC	About the same	About the same	About the same	Still barks; owner dislikes collar	Less	Much less	Much less	Too sensitive; owner likes collar
West Highland white terrier	7	FS	About the same	About the same	About the same	Yips but keeps on barking	Much less	Much less	Much less	Happy with collar
Labrador retriever	4	MC	Much less	About the same	Less	Dog still barked on occasion	Much less	About the same	Much less	Owner prefers it; can see it work
Doberman pinscher	7	FS	Much less	Much less	Much less	Worked well; owner liked collar	Much less	Much less	Much less	Worked; preferred to use electronic shock collar

* MC=castrated male; F=female; FS=spayed female

† NA=not available; dog not fitted with electronic shock collar

Use of the citronella spray collar may be limited in certain circumstances. The manufacturers of the citronella spray collar recommend that it not be submerged in water; the electronic shock collar tested did not carry such precautions. One owner felt that when the citronella spray collar was worn for prolonged periods of time in bright sunlight, it tended to discharge larger amounts of the citronella solution, but this could not be verified. One owner disliked having the citronella solution on furniture (the dog often was allowed on the couch). Additionally, at least one practitioner has found that the microphone's rubber cover in some older models was eroded by the citronella solution in the reservoir chamber after about a year, and needed to be replaced. The collars were sent back to the company, and the repair was performed there. This problem has not been reported with the model currently available in the United States. The battery may need changing, but according to the accompanying literature it should last for "hundreds of barks." Both collars can be worn by dogs weighing 10 lbs or more; electronic shock collars also are manufactured in a smaller size than the one tested, so they presumably may be more comfortable for smaller dogs to wear.

With the advent of the citronella spray collar, there is an alternative method for management of nuisance barkers that is at least as good, if not better, than electronic shock collars. Citronella spray collars have been used successfully for many years in Europe and Australia, where the use of any electronic shock device is illegal.[e] The citronella spray collar was perceived by the owners as a more humane and acceptable way of stopping their dogs' barking. Dogs quickly learn not to bark when they wear the collar and can learn just as quickly to bark when it is not fastened around their necks. Because the motivation for barking may not change, it may be necessary to have the dog always wear the collar or a dummy collar whenever the owner wishes to reduce the barking. Finally, no device should be recommended without concomitant behavior modification. Desensitization to the stimuli that elicit barking, collar or head-halter corrections, and consistently delivered verbal reprimands (e.g., a sharp "No bark!" or "Enough!") when the misbehavior occurs, along with praise whenever the dog remains quiet in the presence of stimuli that normally elicit barking, comprise a more thorough behavior-modification plan for the client. Last-resort procedures like surgical debarking, though objectionable to some, also should be mentioned in the list of options if all treatments fail and no other alternative remains than to dispose of or euthanize the dog.

Additionally, the citronella spray collar may have potential in the treatment of stranger-directed aggression, when a fear component can be identified and when the aggressive behavior mostly is composed of barking, without other offensive threats.[f]

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[a] Barker Breaker, Super Barker Breaker, and Automatic Barker Breaker; Amtek Signal Corp., San Diego, CA

[b] The Hush! Puppy; High Tech Pet Products, Ventura, CA

[c] Aboistop collar; DynaVet, France, distributed by ImmunoVet, 5910-G Brackenfield Parkway, Tampa, FL

[d] The Bark Diminisher; model BD11, TriTronics, Tucson, AZ

[e] Seksel K: personal communication, 1995

[f] Martens P: personal communication, 1995

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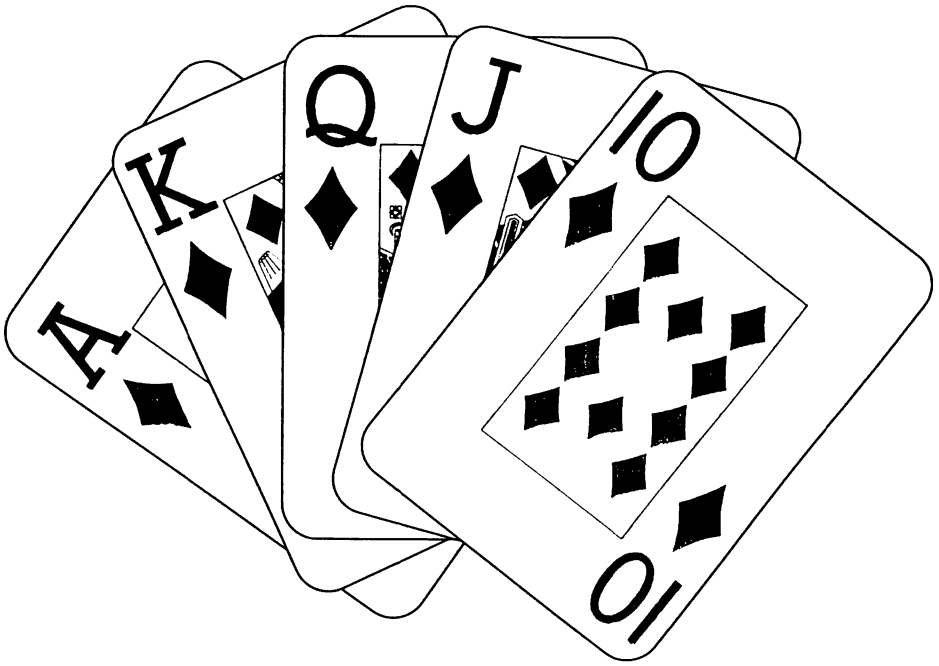

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