

Commentary

Integrating use of psychotropic drugs with environmental management and behavioral modification for treatment of problem behavior in animals

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Few, if any, behavioral practitioners would maintain that use of drugs alone is sufficient to bring about a satisfactory and lasting resolution to most problem behaviors. However, there is reason to believe that selective use of psychotropic drugs can aid resolution of some problem behaviors that, for one reason or another, may not respond to environmental and behavioral approaches alone. The recent enthusiasm for the use of drugs in behavior therapy is, in part, the result of the availability of drugs, developed for use in people, that have the potential to change behavior without causing serious adverse effects. But widespread use of drugs for problem behaviors brings up the possibility that environmental management and behavior modification, which are important for long-term resolution of problem behaviors, will be neglected and that animals and their owners may not be well served. Thus, it is important that veterinarians who are considering using drugs for behavior therapy of companion animals understand how and when to integrate use of such drugs with environmental management and behavioral modification.

The Behavioral Diagnosis

The first issue to be addressed by a veterinary practitioner considering use of a drug for a behavioral problem is whether a drug is even indicated. This requires establishing a diagnosis and understanding the underlying causes of the problem. For example, in some cats, urination problems—especially urine spraying—stem from anxiety associated with introduction of a new cat to the household.^{1,2} An anxiolytic such as buspirone hydrochloride may alleviate the anxiety and resolve the problem while the cat adapts to its new housemate.³ However, in other cats, urination problems stem from an aversion to the litterbox, and in these instances, attention to more frequent cleaning rather than to drug use is indicated. Similarly, in dogs, fear- and dominance-related aggression should be treated in different ways.¹ Treatment of an aggression problem that has fear-related and offensive components with an

anxiolytic drug may intensify the problem if diminished fear leads the dog to attack more readily. Thus, when treating companion animals with behavior problems, establishing a diagnosis is essential to determining whether use of psychotropic drugs may be useful or if only environmental management and behavioral modification are indicated.

The Ethics of Drug Use

There are concerns about whether it is ethical to administer psychotropic drugs to domestic animals to correct problem behaviors without attending to the underlying environmental causes of these behaviors.⁴ With regard to treatment of problem behaviors in companion animals, this issue is of particular concern when it is possible to alter an undesirable behavior without eliminating the factors causing the problem. For example, extreme anxiety to separation or excessive fear of loud noises (eg, fireworks, thunder) may be alleviated by administering an anxiolytic drug, and the animal may appear normal as long as it continues to receive the drug. However, discontinuation of drug treatment may result in recurrence of the problem, and, thus, may necessitate the animal receiving the drug indefinitely, because the underlying problem has not been resolved. Systematic desensitization and counterconditioning are well-established techniques for treating separation anxiety and fear of loud noises and can be used to permanently resolve these problems without drugs. However, although such behavioral techniques can be quite successful, they are labor-intensive. Because clients often want a quick fix, there may be a tendency to give a drug without implementing a behavioral program. Veterinarians should understand and consider the ethical issues associated with treating these behavioral problems with psychotropic drugs without first dealing with the causes of the problems.

Drug Selection

If psychotropic drugs are to be used to treat problem behavior, then it is important to select the most appropriate drug for each situation. To date, none of the currently available drugs has received FDA approval for use in animals. Thus, veterinarians must evaluate

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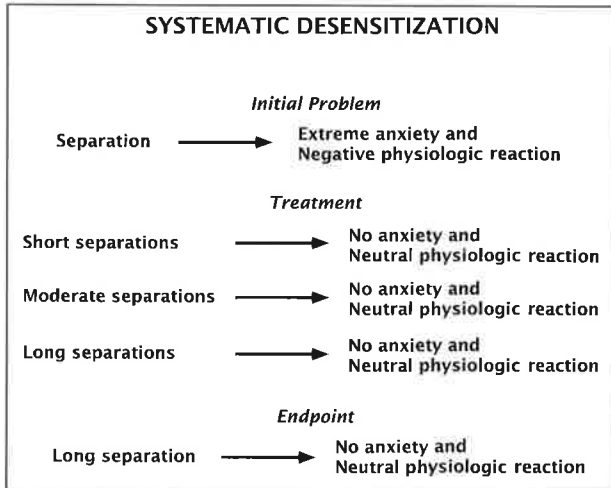


Figure 1—Use of systematic desensitization to treat separation anxiety in a dog. In this example, the initial problem is extreme anxiety (household destructiveness, vocalization, elimination) when the dog is left alone for more than 15 minutes. The starting point of treatment is short departures (eg, 2 minutes), representing a weak separation stimulus. The weak separation stimulus should evoke no anxiety (or only mild anxiety) with a neutral physiologic reaction, and with multiple separations, the dog will become desensitized (habituated) to short separations. As the separation stimulus is strengthened by increasing the duration of separation, the dog is continuously desensitized to longer periods of separation. Eventually, the full strength stimulus of all-day separation evokes a neutral physiologic reaction rather than anxiety and the accompanying negative reaction.

published reports of results of extra-label use of psychotropic drugs to determine which drugs will be effective in which situations.

The strength of the evidence that a particular drug is effective for a particular problem behavior varies from one type of study to the next.⁵ In addition, no drug is effective in attenuating a particular problem behavior in all of the animals that are treated. Because various drugs and drug dosages may be recommended for some problems, some experimentation often is necessary to find the most appropriate drug and dosage.

The effectiveness of psychotropic drugs presumably varies from one animal to the next, at least in part, because of biologic variation in receptors and physiologic events related to the action of the drug on the CNS and other organs. Also, some variability is probably a result of the interaction between environmental stimuli and early experiences that predispose the animal to engage in the behavior.

Use of Psychotropic Drugs in Companion Animals

At the present time, there are 2 instances in which psychotropic drugs should be used in the treatment of problem behavior in companion animals. The first is when conventional behavioral or management procedures alone may not be sufficient to resolve the problem. The second is when behavioral procedures alone may be sufficient, but the client has limited time or

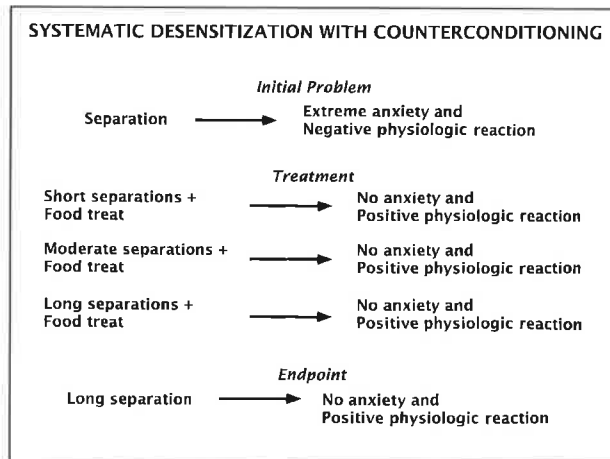


Figure 2—Use of a combination of systematic desensitization and counterconditioning to treat separation anxiety in a dog. The systematic desensitization aspect is the same as in Figure 1. Counterconditioning involves pairing a food treat with the owner's leaving. The food treat induces a positive physiologic reaction that is incompatible with the negative physiologic reaction the dog has previously had to separation.

opportunity for extensive behavioral modification procedures, and the drug will facilitate behavioral procedures, making treatment more feasible.

Use of drugs when behavioral approaches alone may not be sufficient—With a few problem behaviors, environmental adjustments and behavioral modification alone are frequently not effective in resolving the problem. For example, in the case of urine spraying (marking) in cats, suggested behavioral approaches often include feeding or watering the cat at previous target areas, use of remote punishment in the form of sticky tape or booby-traps at targeted areas, blocking the cat's exposure to provocative visual stimuli (eg, other cats), and use of an enzymatic cleaner on previously deposited urine odors.² Although these measures may sometimes completely resolve the problem, frequently they do not. The use of a drug such as buspirone may eliminate or greatly reduce urine marking,³ and behavioral procedures may be viewed as facilitating or enforcing the permanency of the drug-induced resolution. Depending on the wishes of the owner, one may institute behavioral approaches first and, if these are not successful, add drug therapy, or behavioral approaches and drug therapy may be instituted simultaneously. As mentioned, it is important that a diagnosis be made to establish that one is dealing with a drug-responsive behavior problem. In this example, for instance, it is essential to determine that the cat is urine marking and does not have a litterbox aversion or some other cause of inappropriate urination before treating.²

Use of drugs when behavioral approaches alone may be effective—Psychotropic drugs also can be used to facilitate resolution of problems for which behavioral procedures, such as systematic desensitization and counterconditioning, alone may be effective. In these instances, drugs may be viewed as making the behav-

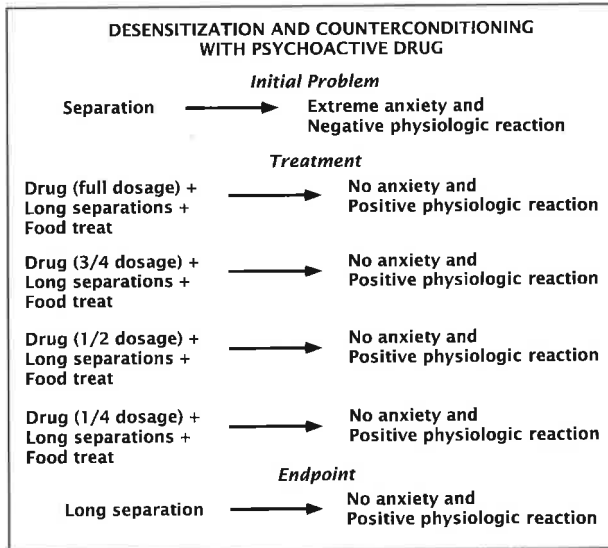


Figure 3—Use of a psychotropic drug to facilitate desensitization and counterconditioning to separation anxiety in a dog. The drug eliminates or weakens the anxiety and accompanying negative emotional reaction to separations and the positive physiologic reaction evoked by a food treat is associated with the departure stimuli. After several weeks, the drug dosage is gradually reduced, and the end point is the same as that when systematic desensitization and counterconditioning are used without a drug (Fig 2).

ioral procedures less labor-intensive and time consuming for the clients and, thereby, more feasible. This approach requires that the drug itself produce marked attenuation of the undesirable behavior. Therefore, it is necessary to administer the drug for a trial period to determine whether it has an effect on the behavior. If a behavioral change is not observed, even after different dosages are used, there is no sense in using that particular drug, and other drugs must be tried. If a drug is found to be useful, then the drug is administered while behavioral procedures are instituted, with the intention of phasing out drug administration while continuing the behavioral procedures. Because with some drugs, one may not notice a marked reduction in the problem for 2 to 3 weeks,⁶ there should be a clear treatment plan set out for the client that emphasizes the importance of consistent administration of the drug and of consistent implementation of the behavioral modification program.

As an example, consider the treatment of separation anxiety in a dog. The typical initial complaint is that when left alone by its human family members the dog shows behavioral signs of fear or panic accompanied by a physiologic state that is aversive or negative. Nondrug treatment of separation anxiety in an adult dog involves systematic desensitization to the anxiety-evoking stimulus of separation by exposing the dog to gradually increasing durations of separation in a structured manner (Fig 1). Most recommended behavior modification programs for separation anxiety also involve counterconditioning.¹ With counterconditioning, an appetizing food treat is paired with the owner's leav-

ing. The food treat produces a positive physiologic state that is incompatible with the negative emotional reaction the dog has previously had to separation (Fig 2).

With these behavioral approaches to treatment of separation anxiety, the dog is, at the beginning, left alone for only short periods (seconds to minutes). However, if an effective psychotropic drug is given at the beginning of the desensitization and counterconditioning program, separations of longer duration (several hours) may produce only slight anxiety; repeated separations then can result in progressive desensitization. Once the dog is desensitized to separations while receiving the drug, the drug dosage can be gradually reduced while the desensitization and counterconditioning programs are continued. Eventually, drug administration can be discontinued altogether (Fig 3). In some instances, clients may not always carry through with behavioral modification procedures as instructed, but still report resolution of the problem when the drug administration is discontinued. This improvement probably stems from exposure to the anxiety-evoking stimuli in unstructured situations that result in desensitization.

When treating separation anxiety, desensitization and counterconditioning programs should be used. If only a desensitization program is implemented, then the best that can be hoped for is that the anxiety and negative physiologic state will be replaced by a neutral state when the dog is separated from its owners. By pairing counterconditioning with desensitization, a positive emotional state replaces the negative state, producing a longer term resolution to the problem of separation anxiety, especially if the owners continue to give food treats to the dog when they depart.

Conclusions

Although only 2 examples have been given in this commentary, they illustrate the concept of integrating drug use with behavioral modification. Similar approaches could be developed for other problem behaviors and tested for clinical usefulness. The primary concern is that owners of animals with problem behaviors be told about the importance of combining behavioral measures with drug use.

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