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Confronting the Controversy Over Behavior Modification Methodologies

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Behavioral complaints are pervasive among pet owners. While the severity of the grievance varies, almost every care giver can find some aspect of their pet's behavior that they would like to improve. Unarguably, the most problematic and dangerous behavioral issues involve aggression, particularly aggression directed toward people.

For decades, dog behavior was interpreted using a wolf-pack model. This led to dominance theories to incorrectly explain a variety of dog behavior problems. Aggressive behavior in particular was erroneously equated with dominance. This ignores the reality that aggressive behavior may arise for other reasons, including fear.

Dominance theory paradigms have resulted in a host of disturbingly abusive actions committed toward dogs, with the goal of forcing dogs to show submissive behavior and therefore eliminate aggression. As our objective knowledge of dog behavior grew, and the fields of cognitive psychology and behavior analysis contributed valuable scientific information regarding evaluation and resolution of behavior problems, educated behavior consultations began to use more effective, sophisticated, and humane methods to alter behavior.

The recent resurgence of dominance theory and its resultant array of confrontational (punishment-based) approaches to preventing and treating behavior problems is concerning to educated behavior professionals. Media propagation has boosted this unfortunate resurrection,

despite growing research illustrating the danger of using force and punishment to treat behavior problems. There is obvious truth to the axiom "Aggression begets aggression."

In a 2009 study, Herron et al. surveyed 140 care givers presenting dogs to a behavior referral service on the incidence and outcome of various training methodologies.¹ Care givers were queried on their use of aversive interventions, divided into direct confrontation (e.g., hitting and "alpha roll") and indirect confrontation (e.g., yelling); neutral interventions (e.g., avoidance); and non-aversive/positive-reinforcement interventions (e.g., food rewards for good behavior). Care givers were also questioned regarding the dog's response to these techniques. Aggressive reactions were defined as growling,

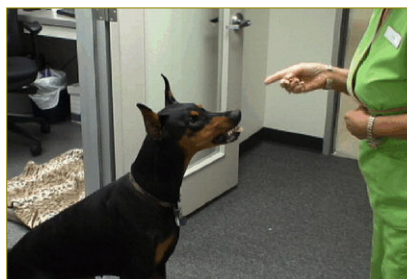


Figure 1. Punishment-based training techniques, particularly those involving direct confrontation, can lead to owner-directed aggression.

snarling, snapping, lunging, and biting.

Of the neutral and non-aversive techniques combined, less than 6% of dogs on which these were used responded with an aggressive reaction. Of the dogs subjected to direct confrontation, up to 43% of dogs responded with an aggressive reaction. The techniques most likely to trigger an

aggressive response included hitting/kicking the dog (43%), forcing an item from the dog's mouth (38%), "alpha rolling"—rolling the dog onto its back and holding it there (31%), grabbing the dog by the jowls/scruff (26%), muzzling (36%), and the "dominance down"—forcing and holding the dog down onto its side (29%). Indirection confrontation methods with a high degree of aggressive reaction included the "stare down"—staring at the dog until it looks away (30%), using a water pistol/spray bottle (20%), and growling at the dog (41%).

Also In This Issue

Critical Care, 3

Human Immunoglobulin Treatment for Immune-Mediated Thrombocytopenia in Dogs

Dermatology, 4

Adverse Reactions to Milbemycin Treatment for Demodicosis

Endocrinology, 5

Radioiodine Treatment of Feline Thyroid Carcinoma

Oncology, 6

Metronomic Therapy for Incompletely Resected Soft Tissue Sarcomas

Small Mammals, 7

Hyperadrenocorticism and Preputial Cytology in Male Ferrets

Surgery – Soft Tissue, 8

Adhesive Incise Drapes and Prevention of Bacterial Contamination

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Mariotti et al. also looked at factors influencing care giver-directed aggression in dogs. Among other factors, she found that 80% of dogs that were physically punished exhibited owner-directed aggression, compared to 23% of dogs that were not physically punished.² (These two studies did not evaluate the efficacy of the interventions in actually resolving or improving the behavior problem.) Dogs trained primarily with punishment or negative reinforcement-based programs have been shown to exhibit more stress and fear-related behavior responses.^{3,4}

The dispute between individuals using positive reinforcement and those promoting dominance/punishment-based approaches involves differences in knowledge level as well as a differing belief system. Dominance theory paradigms often are instituted by individuals that have limited or no knowledge of the principles of learning and how environmental stimuli contribute to reinforcing and punishing behaviors. In many instances, the behaviors in a dog that an owner labels as dominant and then punishes are the same behaviors that the owner then inadvertently reinforces at another time point. More importantly, owners committed to

positive reinforcement concede that the dog's behavioral patterns are a result of its learning experiences, whereas those individuals using dominance concepts do so because they are trying to change some inherent defect in the dog itself – the dog is dominant, or aggressive, or “psycho” – rather than defining the *behavior* that the dog exhibits. In essence, the former perspective puts the burden of behavior change on the owner, while the latter outlook puts blame on the animal.

There is no question that punishment can be an effective behavior change intervention, but punishment is difficult to apply properly, and it does not teach the animal what it *should* do. Punishment is a strategy for eliminating or reducing behavior, not for creating or strengthening it. If this is the only paradigm taught to owners, they will be unable to adequately shape desirable behaviors in their animals – they are left with a woefully incomplete understanding of effective behavior change plans. Furthermore, as the above studies indicate, punishment often induces undesirable side effects including aggression, fear, or learned helplessness, as well as eroding the human-animal bond.

TIPS FOR PRACTITIONERS

Practitioners should refrain from prescribing confrontational techniques or recommending that owners read books or watch media shows that promote these. (Keep in mind that television programs are geared primarily for entertainment, not education.) Owners that implement such training methods are at risk of injury to themselves (Figure 1), even if their animals have not previously shown owner-directed aggression. There is a degree of liability to a practitioner that prescribes a training technique expressly resulting in injury to the owner.

The American Veterinary Society of Animal Behavior (AVSAB) recommends that practitioners only refer to trainers and behavior consultants that understand the principles of learning and engage in positive reinforcement-based programs. Position statements are available through the AVSAB website (www.avsabonline.org) on the topics of dominance theory and the use of punishment in behavior modification in animals.^{5,6}

Data and clinical experience from the field of applied behavior analysis in both humans and animals evidences the superiority of using positive reinforcement-

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based programs for treating behavior concerns. A variety of publications now offer a concise overview of learning principles and elements of setting up an effective behavior change program based on positive reinforcement.⁷

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autoantibodies, immune complexes bound to the platelet membrane, antibodies bound to platelet antigens altered during the course of disease, or antibodies bound to foreign antigens absorbed to the platelet surface. IMT may be a primary condition or secondary to known antigenic stimuli, such as neoplasia, infectious diseases, and drugs. Methods for the detection of platelet-bound antibody include ELISA, flow cytometry, and immunoradiometric methods.

Immunosuppressive dosages of corticosteroids have been the standard therapy for canine IMT. Other immunosuppressive drugs or splenectomy also have been recommended for use as adjunctive therapy in canine IMT, although their efficacy has not yet been well established. The risk of bleeding becomes low when platelet counts return to more than 40,000/ μ l. Most dogs with severe IMT respond to corticosteroid therapy with or without vincristine within 4.5 to 6.5 days of starting therapy, respectively. Platelet transfusions (fresh whole blood, platelet-rich plasma, or platelet concentrates) generally are not recommended in most dogs with IMT, because the platelets are bound by antibodies and destroyed or consumed within minutes to hours of transfusion. However, in dogs with IMT experiencing uncontrolled or life-threatening bleeding, platelet transfusions may provide short-term hemostasis.

The mortality rate of canine primary IMT (pIMT) ranges from 10 to 30%. Particularly challenging cases are animals presented in the emergency setting for severe gastrointestinal hemorrhage and experience a delayed response to conventional immunosuppressive therapy. An alternative, fast-acting treatment option for the acute management of canine pIMT is needed.

Human intravenous immunoglobulin (hIVIG) contains IgG and trace amounts of IgM, IgA, CD4, CD8, and human leukocyte antigen. Retrospective studies in dogs have reported that hIVIG is well tolerated and associated with rapid platelet count recovery in most dogs with presumed pIMT.

Objectives

To compare the effect of hIVIG plus corticosteroids versus corticosteroids alone on platelet count recovery, hospitalization time, transfusion requirements, cost of

patient care, and mortality in dogs with presumed pIMT.

Procedure

Eighteen dogs with a presumptive diagnosis of pIMT were investigated in a prospective, randomized, double-blinded, placebo-controlled clinical trial of hIVIG plus corticosteroids versus corticosteroids alone. Parameters studied were platelet count recovery, hospitalization time, transfusion requirements, cost of patient care, and mortality in dogs with presumed pIMT.

Results

No immediate or delayed adverse reactions associated with hIVIG administration were observed over a 6-month period. The median platelet count recovery time for the hIVIG and placebo group was 3.5 days (range, 2 to 7 days) and 7.5 days (range, 3 to 12 days), respectively. The median duration of hospitalization for hIVIG and placebo group was 4 days (range, 2 to 8 days) and 8 days (range, 4 to 12 days), respectively. There was no significant difference between groups with respect to expense of initial patient care, whereas significant reduction in platelet count recovery time and duration of hospitalization were detected in the hIVIG group.

Author Conclusion

Compared with corticosteroids alone, adjunctive emergency therapy of a single hIVIG infusion is safe and associated with a significant reduction in platelet count recovery time and duration of hospitalization without increasing the expense of medical care.

Inclusions

Two tables, 50 references.

Editor Annotation

This is a superbly constructed and executed study. Results demonstrate that the time for platelets to rise above the critical number of 40,000/ μ l, in dogs with IMT treated with hIVIG and prednisone, is significantly shorter than for dogs treated with prednisone alone. The results also show that treatment with hIVIG decreased hospitalization time and did not significantly increase cost of treatment. No immediate or long-term adverse effects of hIVIG treatment were seen in this study. Results

Critical Care



HUMAN IMMUNOGLOBULIN TREATMENT FOR IMMUNE-MEDIATED THROMBOCYTOPENIA IN DOGS

Background

Immune-mediated thrombocytopenia (IMT) in dogs is a blood disorder in which antibodies bound to the surface of platelets cause platelet destruction and removal by the mononuclear phagocytic system leading to thrombocytopenia. The binding antibodies can be antiplatelet