Characterization and Treatment of 20 Canine Dominance Aggression Cases

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ABSTRACT. This study was undertaken to characterize 20 cases of dominance aggression seen at Tufts University School of Veterinary Medicine and to investigate the efficacy of our non-confrontational behavior modification program for 8 weeks. The 20 cases included 18 pure breed and 2 mixed breed dogs. Thirteen of the dogs were male. The dogs' ages ranged from 7 to 84 months (mean 32.1 ± 22.64 SE). There was no correlation between the severity of dominance aggression and the signalment of the dogs. At the conclusion of the eight week follow up period, 14 dogs (70%) were reported to have responded to the treatment to some degree. Six dogs did not demonstrate any noticeable reduction in aggressive behavior or became more aggressive. The results of the study is powerful evidence of the efficacy of the non-confrontational behavior modification program. — KEY WORDS: behavior modification, canine, dominance aggression.
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Dominance aggression is the most common canine behavior problem treated in veterinary behavior clinics [1, 3, 8, 12]. Dogs are a social species that normally form dominance hierarchies, social systems that determine which animal has first access to food, resting places, and mates. Domestic dogs are thought to perceive human family members as a pack, and may view family dynamics hierarchically. In support of this contention, a spectrum of canine social signals are displayed by dogs towards their owners, including aggressive communications, submissive gestures, and greeting and play signs. A dominant aggressive dog may not be aggressive to all family members: dominant dogs typically show no aggression to a person who is clearly dominant or submissive into them. Aggression is expressed only to persons who confront or challenge the dog in some way (e.g., by hugging the dog, making direct eye contact, handling its mouth/feet/or neck, and/or having a conflict over a resource such as food, a toy, or a resting area) [2, 7, 9, 11]. For treating dominance problems, behavioral modification is recommended [2, 6, 7–9]. Medications are also prescribed occasionally to facilitate behavior modification therapy [6, 7, 9]. There is a paucity of information about the results of treatment of dominance aggression [4–6, 8, 10], and more quantitative and qualitative studies are needed to determine more accurately the outcome of various therapeutic approaches. This prospective study was undertaken to characterize cases of dominance aggression seen at Tufts University School of Veterinary Medicine and to quantitate the owner's impression about the progress of aggressive behavior after the counseling.

The records of all animals seen at the animal behavior clinic from December, 1995 to June, 1996 were reviewed (182 cases). Dominance aggression was diagnosed if a) the owner's primary complaint was that of aggression by the dog directed towards family members and b) if the dog behaved aggressively toward family members in at least five of 30 special situations (Table 1), they were designed to quantify dominance aggression as a score (dominance score calculated as growl=1, lip lift=2, snap=3, bite=4).

The signalment of the dogs and the results of the treatment were shown at Table 2. Thirty four cases were diagnosed with dominance aggression, and 20 cases were used in this study. Fourteen cases were excluded because of incomplete documentation or receiving prescribed medication (thyroxine, fluoxetine, or clomipramine). The 20 cases included 18 pure breed and 2 mixed breed dogs. Thirteen of the dogs were male (1 intact male and 12 neutered males) and 7 were females (1 intact female and 6 neutered females). The dogs' ages ranged from 7 to 84 months (mean 321 ± 22.64 SE). Dominance scores ranged from 5 to 53 (18.75 ± 11.0 SE). There was no correlation between the dominance scores and the signalment of the dogs (age sex, breed).

Table 1. A list of 30 situations used to define dominance aggression

Touch dog's food while eating
Walk past dog while eating
Add food while dog is eating
Take away real bone or rawhide
Walk by dog when it has a real bone or rawhide
Touch delicious food while dog is eating
Take away stolen object
Physically wake dog up
Physically disturb resting dog
Restrain dog when it wants to go someplace
Lift dog
Pet dog
Medicate dog
Handle dog's face or mouth
Handle dog's feet
Trim the dog's toenails
Groom dog
Bathe or towel off
Take off or put on collar
Pull dog back by the collar or scruff
Reach for or grab by the collar
Hold dog by muzzle
Stare at dog
Reprimand dog in loud voice
Visually threaten dog: newspaper or hand
Hit dog
Walk by dog in crate
Walk by or talk to dog on furniture
Remove dog from furniture: physically or verbally
Make dog respond to command

Table 2. Dominance aggression treatment results

Breed	Dominance[a] Score	Sex[b]	Age[c]	Behavioral score[d] 1 week	2 week	4 week	8 week
Beagle	15	SF	36	0	2	2	1
Chesapeak Bay Retreiver	53	IM	26	0	2	3	4
Cocker Spaniel	15	CM	25	0	0	1	1
Cocker Spaniel	17	CM	57	1	1	2	3
English Springer Spaniel	9	SF	24	4	4	4	4
English Springer Spaniel	16	CM	18	0	0	3	0
English Springer Spaniel	21	CM	72	0	1	1	3
English Springer Spaniel	24	CM	18	1	2	2	3
Golden Retreiver	6	SF	65	1	0	0	0
Golden Retreiver	8	SF	10	0	2	-1	-4
Golden Retreiver	27	CM	13	0	-1	-5	
Labrador Retreiver	9	CM	30	2	-1	1	1
Labrador Retreiver	10	CM	7	3	3	3	4
Labrador Retreiver	28	CM	16	0	0	0	0
Lhasa Apso	20	SF	84	0	0	-4	
Miniature Pinscher	5	IF	31	1	2	3	4
Welsh Corgi	13	CM	23	2	-1	4	2
West Highland White Terrier	33	CM	58	1	2	2	3
Mix (Collie X: 28.7 kg)	20	CM	20	1	2	3	3
Mix (Rottweiler X: 34.0 kg)	26	SF	9	1	2	2	3

a) Dominance score is explained in the paper b) IM: intact male, CM: castrated male, IF: intact female, SF: spayed female c) Age is shown in months d) score -5: euthanasia, -4: placed in new house, -1: worse, 0: no change, 1: slight improvement (less than 25%), 2: moderate improvement (25–49%), 3: marked improvement (50–74%), 4: cured (75-100%).

At the time of the initial appointment, owners were instructed to institute a non-confrontational behavior modification program for their dogs. The dogs in this study were treated without any supplementary medical treatment. The program included the following facets, 1) avoid confrontations with the dog (any situation where the dog is likely to growl, snarl, snap, or bite), 2) limit spontaneous interactions with the dog, 3) provide valued resources and attention to the dog only when the dog has obeyed a command (sit, down, come, etc.); nothing in life is free program, 4) arrange daily obedience training based on positive reinforcement, 5) ensure the dog gets at least 20–30 min of sustained aerobic exercise daily, 6) prevent the dog from sleeping on beds or other furniture, 7) change to regimented feeding (the dog should be fed once or twice a day, for 15 min each time). Owners were required to record the dog's behavioral score daily. The 6 categories were -1: worse, 0: no change, 1: slight improvement (24% or less), 2: moderate improvement (25–49%), 3: marked improvement (50–74%), 4: cured (75–100%). In addition, they were contacted 1, 2, 4, and 8 weeks after the initial examination to assess their dog's progress, answer any questions, and discuss problems that might have arisen.

More than 50% improvement was shown 2 dogs after 1 week, and this improvement was maintained for subsequent weeks of the treatment program. Seven dogs showed greater than 50% improvement by week 4, and 10 dogs showed this level of improvement by week 8. At the conclusion of the eight week follow up period, 14 dogs (70%) were reported to have responded positively to the treatment. Four dogs (20%) were reported as "cured" by the owner, 6 (30%) showed "marked improvement", 1 (5%) showed "moderate improvement", and 3 (15%) showed "slight improvement". Six dogs did not demonstrate any noticeable reduction in aggressive behavior or became more aggressive during the eight week program. Two of them were placed in new homes and one was euthanized following some aggressive outbursts in the second week of the study. Risk factors associated with the management of canine dominance aggression have been discussed elsewhere [10].

Dominance aggression can be exhibited by dogs of either sex, at any age, and in dogs of any breed, however, young male adults and some pure breed (English Springer Spaniels, Doberman Pinscher, Lhasa Apso) are overrepresented in this diagnostic category [1, 3, 6, 8–12]. Some owners of dominant dogs may have tolerated agonistic encounters for a time prior to realize their need for professional help so the age of the dog at the time presentation does not reflect the time of onset of this condition.

The finding that 20% of dogs treated with a non-confrontational behavior modification program were considered to be "cured" by their owners and that an additional 30% showed "marked improvement" is powerful evidence of the efficacy of behavior modification therapy. Crowell-Davis [4] regards 8 weeks as the time of peak improvement following institution of a similar behavior modification program so it is possible that any further improvement after this time would be insignificant. Indeed it seems likely that if a program is not sustained at some level that there may even be slippage with aggression

returning toward former levels.

One thing which is striking about the results is the great discrepancy between individuals treated with the results ranging from total treatment success to total treatment failure. It seems likely that genetic and circumstantial, perhaps owner-related factors, contribute to the final outcome in any individual case.

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