An Article concerning the so-called “Rage Syndrome”

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Whenever an English Springer Spaniel displays aggressive behavior, everyone suspects “Springer Rage Syndrome”. Visions of a maniacal dog instantly come to mind, frothing at the mouth, with death as the inevitable conclusion for the dog.

“Rage Syndrome” is an old term, essentially a misnomer that should be dropped from the behavior vocabulary. Rage implies a violent, emotional reaction. While this may apply to sudden outbursts of violence in people, it really doesn’t help us determine why a similar incident occurred in dogs. The records of many dogs previously diagnosed with “Springer Rage Syndrome” were reviewed, and various forms of aggression were actually displayed. As part of my own behavior practice, I frequently evaluate dogs with so-called “Rage Syndrome”. So far, all of these dogs have been diagnosed with another form of aggression, including dominance aggression, fear-related aggression, resource guarding, and territorial behaviors. Dominance aggression was the most common diagnosis, when current diagnostic criteria were applied.

Ilana Riesner DVM, formally of Cornell’s behavior clinic, did most of the groundbreaking research on “Springer rage.” Most of these springers actually showed a severe form of dominance aggression. A careful behavioral history revealed that the “unprovoked” attacks typically occurred in social situations, even though the owners were unable to predict when an attack would occur. One of the unique features of springers with this form of dominance aggression is the lack of warning before the aggression. The “glazed look” noted by owners is actually a very intense stare and dilated pupils. This is caused by sympathetic nervous stimulation, part of the fight or flight response. Whereas most dominant dogs gradually escalate the level of threat in social situations, moving from a stare, to growl, to lip curl, to snap and finally to bite, springers seem to move from stare to full-blown attack, skipping the intermediate stages. These dogs lacked impulse control and over-reacted in situations they perceived as threatening. Pedigree research showed that the most severe cases in springer spaniels could be traced back to a common bloodline. Cornell was very fortunate to be located in the geographic location to work with large numbers of these dogs, with the cooperation of breeders and owners.

Many of the dogs studied by Dr. Reisner had abnormally low amounts of serotonin metabolites in their urine and cerebral spinal fluid. This suggested that the dominance aggression was associated with abnormally low levels of serotonin in the brain. This corresponded with findings in violent mental patients and prison inmates. Serotonin is one of the neurotransmitters, brain chemicals, that has a calming effect. In most mammals, it seems to decrease the amount of aggression associated with dominance. While it doesn’t necessarily change the social status of an animal, higher serotonin levels decrease the likelihood aggressive displays will be used to maintain that social position. Based on these findings, medications that increase serotonin levels were used to treat dominance aggression in dogs. About 50% of the dominant...
aggressive dogs respond to these drugs, with a decrease in aggressive displays. The drugs don’t solve the problem, but they can make it safer and easier for owners to use behavior modification techniques to change the dog’s social status in the home. This indicates that dominance aggression may, at least in some individuals, result from a brain abnormality on the chemical level.

Unfortunately, there is no commercial test to check serotonin levels in dogs. Once a behavioral history indicates an individual dog may be a candidate for drug therapy, a 6 week therapeutic trial is usually recommended to see if they fall in the 50% who seem to have this chemical abnormality. Prozac is the drug most commonly used and has the most success. Clomicalm, a veterinary form of clomipramine used to treat separation anxiety in dogs, also affects the serotonin system. A recent study, however, failed to show a reduction of aggressive displays when used in dominance aggression.

When treating any dominant aggressive dog, the prognosis depends on several factors:

1. Age of onset of aggression – The younger the dog at the time of the initial aggression, the poorer the prognosis. Most dominance aggression begins around the age of behavioral maturity, 1-2 years of age. I have seen some dogs that already showed severe signs before 6 months of age. On the other hand, I’ve seen some owners who don’t seek help until the dog is approaching middle age, although the initial warning signs were present much earlier.

2. Duration of aggression – Since there is a learned component in any form of aggressive behavior, it makes sense that the longer the aggression has been going on, the harder it will be to convince the dog the household rules have changed. Like any habit, owner behaviors that lead to aggression are also harder to change.

3. Severity of the aggression – Dogs who display lower levels of aggressive behavior, such as growls, lip curls, and inhibited snaps, will be much easier to treat than dogs who explode with violent attacks. The severity of the displays is a stronger predicting factor for successful treatment than the frequency. There is certainly less owner motivation for attempting treatment when the attacks result in severe injury, even when they are very infrequent.

4. Predictability of the aggression – If owners can predict which situations are most likely to result in aggression, such as guarding objects or a favored resting place, then measures can be taken to prevent those situations. In addition, safe training sessions can be set up to teach alternative behaviors. If an owner, even with the help of an experienced behaviorist, cannot predict the aggression, it will be far more difficult to treat.

5. Owner / family profile – This determines the owners’ motivation to treat the dog. Some owners will not be able to successfully treat some aggressive dogs, even if there is a treatment program that may be successful.

Dominance aggression seems to arise from three different family profiles. Some dogs seem to become dominant by default, because no one else in the family took the leadership role. These are the easiest to treat, as the owners simply need to be educated and shown what to do. Other situations result from a mismatch in personalities...an assertive dog with a permissive owner. These can also be treated, but owners may become uncomfortable with the necessary lifestyle changes required to live with the dog. Finally, there are those individual dogs that are genetically extremely assertive. They would probably be difficult for any but the most experienced dog trainers. These dogs are the most difficult to treat, as they resist losing the role of top dog and constantly test the owners throughout life.

Children add another factor to the equation. An adult can make an informed decision to treat an aggressive dog, potentially placing themselves at risk of injury. A child cannot. Children are more likely to be injured, as they often do things inadvertently that may challenge an aggressive dog, even something as simple as eye contact. The face and neck are the most common locations for bites, as the child’s size places them at head level with the dog. As a veterinarian and a behaviorist, I would never argue against euthanizing an aggressive dog if there were children in the household. Our first responsibility has to be the safety of those children.

The form of aggression commonly called “rage syndrome” can be seen in any breed, but has been documented most frequently in English springer spaniels and English cocker spaniels. This term simply
describes the presentation of the aggressive behavior and does not tell us anything about the underlying cause. Most of these dogs have been diagnosed with dominance aggression, but that is not always the case.

Unfortunately, dominance aggression is probably most commonly found in show lines. It makes sense, when you think about it, as a successful show dog must be confident and assertive to deal with all the stresses of the show ring. We've selected for this personality. Show people instinctively handle these dogs, maintaining leadership without squelching that spark that catches the judge's eye. Trouble occurs when offspring from these lines go into homes with owners who don't know how to handle these aggressive personalities. Most breeders are great at carefully placing the most assertive puppies into homes with the right type of owner, providing lots of great advice and guidance to prevent problems from developing.

Assertive personalities exist along a continuum. At some point in the breeding program, an individual may be produced that lies at the extreme, the "rage dog". It is vitally important that breeders recognize those dogs whose personalities lie closer to the extreme, and eliminate them from the breeding program. This is probably what happened in English Springer spaniels. An extreme individual was retained in the breeding program, producing even more extreme offspring, and "Springer Rage" was born. It can happen in any breed and any bloodline if breeders are not vigilant. Springer breeders have worked very hard to try to eliminate this trait within their breed and are to be commended.

There is another form of aggression, called mental lapse aggression, that has been previously described as "rage syndrome". Dr. Bonnie Beaver, at Texas A&M, first described this type of aggression. The cause is unknown, but the EEG brain wave pattern resembles that of a wild animal. It is probably not a seizure disorder, as these dogs do not respond to anticonvulsants. These dogs display sudden, violent aggression. It can start at any age, but usually occurs in young adults, and becomes progressively worse. A careful behavioral history shows absolutely no pattern of predictability. There is no known treatment, except euthanasia. It is probably very rare, but can be very difficult to distinguish from a severe case of dominance aggression. In the long run, it probably isn't that critical to make the distinction, since euthanasia is the safest course in either event.

Seizures can also cause unprovoked aggressive episodes, but the EEG generally shows seizure spikes, a different pattern from mental lapse aggression. When seizures are the suspected cause of aggression, the veterinarian should do the typical medical evaluation for any other type of seizure. These dogs often do very well on anticonvulsants. Owners must be prepared to deal with the necessary monitoring, as well as the risks involved with owning a dog who shows aggression during a seizure. Otherwise, they are handled just like any other seizing dog.

Depending on how you break it down, there are probably 20 different forms of aggression in the dog. Multiple forms within the same individual may all interact together to produce a single biting episode. Without understanding all these factors, it is extremely difficult to successfully treat an aggressive dog. "Rage Syndrome" has been applied to many types of aggression, primarily dominance aggression, mental lapse aggression, and seizure-related aggression. This term needs to be dropped from our vocabulary when discussing causes, prognosis, and treatment of aggressive dogs.

On a final note, aggressive dogs should be evaluated by someone with the expertise and experience to make an accurate diagnosis and effective treatment plan. Unfortunately, anyone can hang out a shingle and call themselves a "behaviorist", whether or not they have the credentials. It makes it difficult for people needing help to weed out the good behaviorists from the bad ones. The best source of help are board certified veterinary behaviorists, a PhD behaviorist who can work with a regular veterinarian, or someone who has studied extensively under a certified behaviorist. When in doubt, start with your regular veterinarian, who can start ruling out medical causes for aggression and help direct you to qualified experts.

Addendum:

We are currently changing how we look at dominance aggression and social status in the dog. Social status is very fluid, changing with the situation and individuals involved. Dominance is a relative term, not a
description of a dog’s personality. It cannot exist within a vacuum. It requires interaction between at least
two individuals for social status to even come into play. While a dog might be described as having an
assertive or confident personality, dominance should be reserved for describing individual social
interactions. A dog may be the dominant individual in one circumstance and the subordinant individual in
another circumstance. The term “dominance aggression” is gradually being replaced with “status-related
aggression”. Some behaviorists recommend dropping the entire dominant / submissive paradigm. I
happen to disagree, since that negates the fact that social status does exist among dogs and can come
into play during aggressive interactions. However, I agree that “dominance” has developed a very negative
connotation among the dog training literature. Too much emphasis has been placed on “dominating” and
controlling our dogs. We no longer recommend using the “alpha roll” as a form of discipline, nor do we
worry about a dog “winning” a game of tug-o-war, for example. Behavior modification, particularly for the
aggressive dog, should be as non-confrontational as possible, not adversarial. Current dog training
techniques focus on building a relationship of mutual respect and trust.

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