

Animal Behavior **Comportement animal**

Repetitive behaviors in cats and dogs: Are they really a sign of obsessive-compulsive disorders (OCD)?

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According to the veterinary literature, a stereotypy is a repetitive, constant, behavior that appears to serve no obvious purpose (1). According to the Diagnostic and Statistical Manual of Mental Disorders (DSM) IV-TR, in humans, obsessions are recurrent and persistent thoughts, impulses, or images that are experienced as intrusive and inappropriate, causing marked anxiety and distress (2). Compulsions are repetitive behaviors performed in order to prevent or reduce distress (2). In psychiatry, these obsessions or compulsions cause marked distress, are time-consuming, or significantly interfere with the person's normal routine, occupational functioning, usual social activities, or relationships. Some veterinary behaviorists do not think that animals can obsess, so rather than talking about obsessive compulsive disorders (OCD), they refer to compulsive disorders (CD) in animals (3). Compulsive disorders (CD) are defined as behaviors usually brought on by conflict but subsequently shown outside the original context. These behaviors seem abnormal because they are displayed out of context and are often repetitive, exaggerated, or sustained.

The term obsessive compulsive disorder was introduced in veterinary medicine in 1991 following a publication by Goldberger and Rapoport (4) in the Journal of the American Animal Hospital Association entitled "Canine acral lick dermatitis: Response to the anti-obsessional drug clomipramine." These authors included 9 dogs in a single blinded crossover study of clomipramine and desipramine. The latter drug was chosen for comparison because it lacked the anti-obsessional activity of clomipramine but shared the side effect profile seen in humans. All dogs included in the study suffered from severe acral lick dermatitis that had persisted in spite of various treatments. Treatments listed in the article were: Elizabethan collar, allergy shots, Benadryl, neurological analysis, taped paws, Derm caps ES, prednisone, Keflex, steroid shots, Synoptic drops, Valium, antihistamine, flea dips, topical steroids, and Panalog cream. The 13-week study included an initial drug-free period

followed by 3 drug phases (clomipramine — desipramine — clomipramine). Three dogs showing no improvement during the first phase (clomipramine) were dropped from the study. Licking based on owner report decreased significantly with clomipramine compared with baseline and with desipramine. However there is no report of actual success rate. The following year Rapaport et al (5), suggested that canine acral lick dermatitis could be an animal model for obsessive-compulsive disorder in humans. Other authors in the human field then published studies using canine acral lick as a model for OCD in humans (6,7). Justification for this model was based on the fact that acral lick dermatitis (ALD) was refractory to previous attempted treatments but improved with psychotropic medication: clomipramine, fluoxetine, and sertraline produced 43%, 39%, and 21% decrease from baseline licking in ALD dogs (5). When taking a closer look at attempted treatments, unsuccessful treatments in one study (6) listed local and/or systemic cortisone, iodine ointment, salts, and surgical removal. In the study by Winshank and Berk (7), no specific details were given as to any medical work-up done in the 63 dogs. The term obsessive compulsive disorder then began appearing in the veterinary literature (8). The dogs in 1 veterinary study (8) had been treated with antihistamines, corticosteroids, topical application of corticosteroid creams as well as bandages and Elizabethan collars. The common denominator for all these studies is that dogs had been unresponsive to previous treatments. Most dogs (with the exception of 2 dogs out of 174) never received antibiotics. In the case of 2 dogs that did receive antibiotics, there is no mention of the dosage or duration of the prescription.

MacDonald and Bradley (9) state that infection is almost always present in acral lick dermatitis and that antibiotics are one of the most important treatments for ALD. These agents should be used systematically and therapy may require 4 to 6 mo. A more recent study (10) concludes that "*Lesions associated with ALD warrant tissue bacterial cultures as the majority of cases yielded positive growth of bacteria differing from superficial culture and often resistant to empirical drugs.*" Current textbooks and dermatology conference notes highlight that ALD should be considered as a primary disease that is complicated by perpetuating factors. Atopy and food allergy as well as secondary deep pyoderma should be at the top of the list of differentials. Also according to a case series (11) "*six dogs were presented with acral lick dermatitis-like lesions from different underlying causes, namely lymphoma, an orthopedic pin, deep pyoderma, mast cell tumor, leishmaniasis, and (presumptive) sporotrichosis.*"

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Following these publications (4–7) that suggested ALD as a model for OCD in humans, the veterinary literature introduced the term OCD or CD as a diagnosis in cats and dogs that exhibited repetitive behaviors. Examples of listed compulsive disorders in dogs include shadow chasing, light chasing, spinning, spinning/tail chasing, acral lick dermatitis (ALD), self-mutilation, fly biting, pica, fence running, flank sucking, checking hind end, and excessive licking of objects (12,13). Examples of listed compulsive disorders in cats include wool or fabric eating, pica, excessive grooming, hyperesthesia, and tail-chasing (12,13).

The case of ALD highlights 2 important points: i) complete medical investigation of ALD dogs that were included in those 5 studies (4–8) was not described and most likely not done; ii) improvement with various psychotropic medications is not sufficient to conclude that ALD is a “behavioral disorder” or an OCD/CD. Perhaps if these dogs had received appropriate medical treatment (for atopy, food allergy, and deep pyoderma), the ALD would have resolved completely.

The veterinary literature states that to be labeled a true CD, the repetitive behavior should occur in the absence of any primary dermatologic, neurologic, or other medical condition. However extensive medical work-up has not been done yet for many of these repetitive behaviors. Data on compulsive disorders in dogs and cats are scarce and incomplete. Generally the publications are reporting outcomes following psychotropic medication and behavior modification recommendations. In several studies various repetitive behaviors are grouped together within 1 publication or are grouped with other anxiety disorders (8,14–16). Often the number of dogs or cats presenting a specific repetitive behavior is low and treatment outcome is not given by type of repetitive behavior. Luescher (3) reported that approximately 2/3 of CD cases improved to the client’s satisfaction. No details, however, are given about improvement (complete resolution versus decreased frequency and/or decreased duration of the repetitive behaviors) or which specific repetitive behavior improved and which ones did not. Unanswered questions include how many and which repetitive behaviors could in fact be nonspecific signs of strictly medical conditions and not an OCD/CD. Studies on “psychogenic alopecia” in cats, repetitive licking of surfaces in dogs, and “fly biting” in dogs are showing that these conditions labeled as OCD/CD are in fact often secondary to medical conditions (17–19). In 1998, Hewson (20) had already written that dogs with repetitive licking behavior (self or objects) were different from other “CD” cases and that this behavior was possibly symptomatic of another condition. The possibility of co-morbid medical and behavioral conditions has not yet been studied in veterinary medicine. One of the major stumbling blocks is the lack of validated anxiety scales for dogs and cats. Other questions that come to mind include whether or not we have the technology and knowledge to identify all underlying medical causes. Is it possible that there might not be a good or affordable way to diagnose an underlying medical problem? Could the medical condition in some cases be difficult to treat (i.e., no good treatment available)?

Now that the term is used widely in veterinary medicine, the major concern is that other repetitive behaviors will be used as models for OCD in humans, without the preliminary complete

veterinary medical assessment. An example illustrating this concern is a questionnaire survey study (therefore systematic medical evaluation was most likely not done on dogs prior to inclusion in the study) published in 2012. This study (21) concludes by saying that *“the early onset and the variable nature of the repetitive behaviour, which is affected by environmental factors such as micronutrients, neutering and maternal care, share similar components between canine and human compulsions and supports canine tail chasing as a model for human OCD.”* This conclusion is worrisome on at least two levels: i) the potential disservice to our patients when veterinarians diagnose animals with a human condition (OCD) without prior studies looking at complete veterinary medical evaluation into causes of the repetitive behavior, and ii) the potential disservice to humans with regards to the validity of results based on a canine model that may not have anything to do with human OCD. Another recent study (22) on response to psychotropic treatment in tail-chasing dogs again illustrates the absence of complete medical evaluation in order to exclude painful conditions, spine/tail abnormalities or other potential medical causes of tail chasing within the study group. The inclusion criteria for these tail-chasing dogs were based strictly on the dog’s behavioral history, clinical signs, and laboratory parameters.

As veterinarians, we have a responsibility to investigate each type of repetitive behavior with a systematic rigorous medical approach prior to reaching a diagnosis of OCD/CD in order to serve our patients and clients better! We probably still have a lot to learn!

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