You are only as old as you feel: behavior problems in geriatric pets.
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Companion animals are living longer than ever before due to high quality veterinary care and nutrition. Roughly 50% of our patients are at least 6 years of age. Unfortunately, unique behavior problems can accompany increasing age. The incidence of cognitive dysfunction varies depending on the study cited. Azkona, Garcia-Belenguer and Chacon (2009) found that 22.5% of 325 dogs over 9 showed signs of cognitive dysfunction. Neilson, Hart, Cliff and Ruehl (2001) found that 28% of owners of dogs between 11 and 12 years of age reported at least one sign of cognitive dysfunction and 10% reported 2 or more signs. In addition, in 15-16 year old dogs, 68% of dogs had at least one sign and 36% had two or more signs of cognitive dysfunction.

Clients rarely report geriatric behavior changes to their veterinarian unless prompted to do so. In one study, while 75% of owners noticed at least one of the signs of cognitive dysfunction in their pet, only 12% had spoken with their veterinarian about it. Another study found that only 7% of owners spontaneously reported geriatric behavior changes to their veterinarian. Often, owners attribute their pet’s behavioral changes to old age and assume that nothing can be done to alter them.

The communication barrier can be overcome by using a short questionnaire in the waiting room which can be reviewed by the veterinarian before the appointment begins. Five simple questions focusing on housetraining, loss of obedience, increased anxiety, fears and phobias and changes in the level of aggression should illuminate behavior problems sufficiently prior to the appointment. This way, the veterinarian will be able to assess if it is a topic that should be discussed with the client in more detail. In addition, it will bring behavior changes to the forefront of the client’s mind so that he or she will be more likely to share concerns about their pet’s behavior with the veterinarian. A sample, one-page, general behavior questionnaire intended for use in primary care practice is available online at www.flvetbehavior.com on the Veterinarian’s page.

Once the veterinarian and client have discussed the pet’s behavior changes, consideration of contributing medical diseases is essential. The signs of cognitive dysfunction are general and can be caused by medical diseases such as osteoarthritis, metabolic diseases, seizure disorders, neoplasia and hearing or sight impairment. The primary signs of cognitive dysfunction in dogs are disorientation, interaction changes, sleep/activity changes, breakdown in housetraining and changes in anxiety, activity and aggression (DISHA) although owners also report apathy, indifference, and less playing. In cats, owners report housesoiling, excessive vocalization, apathy, less play and aggressiveness as the most common signs of CDS.

It is important to isolate specific medical and behavioral diagnoses for each dog so that each problem can be treated appropriately. For example, while cognitive dysfunction may be present, the dog may also have developed separation anxiety. Treatment should focus on treating both problems in order to get the best outcome.
Canine and feline cognitive dysfunction can be diagnosed if there is an occurrence of one or more geriatric onset behavior problems which are not accounted for by medical conditions. It is generally a disease of dogs over 10 years old and cats over 12 years old, but in one study, dogs as young as 8 years old reportedly showed signs of cognitive dysfunction. It is a progressive disease with older dogs and cats showing more signs than younger animals.

The pathology of CDS is similar to that of Alzheimer’s disease in people including diffuse β amyloid plaques within the cerebrum and hippocampus and their blood vessels. It has been documented in humans, dogs and cats that with age, there is cerebral atrophy, ventricular dilatation, lipofuscin accumulation, decrease in the number of neurons and an increase in the number of glial cells. Meningeal fibrosis and accumulations of ubiquitine-protein conjugates in geriatric dogs without the tangles of human Alzheimer’s disease has been documented. In some species, there is a fall in serotonin levels, a decrease in the activity of the cholinergic neurotransmitter system, an increase in the activity of the adrenergic system and higher than normal levels of monoamine oxidase. There is also evidence that free radical production increases and clearance decreases.

Treatment for cognitive dysfunction is similar to other behavioral diagnoses and includes behavior modification, management changes, safety recommendations and medication when needed. Anipryl® (selegiline, Pfizer), a selective MAO-B inhibitor (when administered as directed), is FDA approved for use in canine cognitive dysfunction. It can restore the sleep/wake cycle and help to slow the progression of cognitive dysfunction. It inhibits the reuptake of dopamine, norepinephrine and serotonin, increases free radical elimination and alters dopamine function. Because of its broad scope of action, it interacts with multiple drugs which are commonly used in veterinary medicine. Medications which should not be combined with selegiline include medications which affect the reuptake of serotonin and dopamine on any level and other MAO inhibitors. Veterinarians should read the drug monograph for selegiline and any other medications prescribed concurrently before instituting polytherapy.

Selective serotonin reuptake inhibitors (SSRIs) such as Reconcile® (Elanco Animal Health) can be used to treat the anxiety and aggression which may accompany cognitive dysfunction. In general, SSRIs have fewer side effects than selegiline, but still should be used with caution in animals with hepatic or renal impairment.

Nutritional therapy may also be indicated for dogs with signs of cognitive dysfunction. Canine b/d™ (Hills) diet has an antioxidant package which has been shown to improve age-related behavioral changes and learning ability in older dogs by limiting cellular damage in the brain. This diet can be helpful in prolonging normal cognitive function in older dogs. Practitioners may consider prescribing this diet instead of the “senior” diet that they typically prescribe for dogs 10 years or older. Owners could see a difference in as little as 30 days.

Nutraceuticals can be helpful in the treatment of cognitive dysfunction. They can be stopped and started without weaning schedules and they generally have low incidence of
side effects. They can be used as an adjunct to treatment with medications and behavior modification or they can be used alone. Novifit® (Virbac) is a SAM-e tosylate salt which has been shown in a double-blinded, placebo controlled study to be effective in alleviating the signs of cognitive dysfunction. Novifit can be used in cats as well. ProNeurozone® (Animal Health Options) is an antioxidant and vitamin combination which may reduce the progression of CDS. At the time of this writing, there are no controlled studies on this product. Senilife® (Ceva) contains phosphatidylserine, pyridoxine, gingko biloba, resveratrol and Vitamin E. In general, the claims for this product include: increased blood flow, neuronal protection, brain metabolism and glucose consumption. In addition, it modulates the dopaminergic and cholinergic system. It has been shown to be effective in the treatment of CDS and can work in dogs and cats within 7 days. Neutricks™ (Quincy Animal Health), contains apoaequorin, a natural calcium-binding protein. The company claims that this product replaces the loss of calcium binding proteins which are lost in the aging process. In a study of elderly Beagles, apoaequorin was found to improve cognitive function in learning tests.

The general behavior modification treatment plan for dogs with cognitive dysfunction includes environmental enrichment, increased mental stimulation, structured interactions with the owners, institution of a predictable routine and retraining certain behaviors. In addition, any other specific behavioral diagnoses should be treated. In order to make interactions more predictable, owners should use the dog’s verbal cues when communicating with him and alert him (with a word, sound or light signal) when they are going to touch him. Older dogs may be startled easily due to visual, hearing or orthopedic impairment causing them to act out aggressively or become fearful of everyday events. If the older dog is starting to act out aggressively, precautions should be taken to separate him from children or others who may instigate aggression while treatment is initiated.

Loss of housetraining is often of great concern to owners. Typically, the owners of dogs with cognitive dysfunction report that their dog goes outside for a walk and does not eliminate. After the walk, the dog immediately eliminates inside the home. In order to treat this problem, owners can re-housetrain the dog or train him to eliminate in a litter box or on paper. Confinement may be necessary when the older dog cannot be watched so that accidents do not occur. Ideally, older dogs would be confined in a small, tiled room with a bed and water. When this is not possible a crate can be used. For many older dogs, confinement at this stage of life can be very stressful.

If the older dog needs to be confined due to housesoiling or aggression, but does not have recent experience with or was never confined to a crate, it may be a challenging and stressful to adequately train him to accept the crate. Confining an older dog who is anxious or impaired in a crate for the first time and leaving the house for long periods of time may precipitate the development of separation anxiety and confinement anxiety. In addition, he may cause injury to himself if he makes efforts to escape. The owner should expose the dog to the crate slowly using positive reinforcement. Once the dog can go into the crate on cue, the owner can begin to close the door. When the dog is successful at that step, she can begin to leave the dog alone for short periods of time. The owner should monitor the dog closely for any signs of anxiety (e.g., hypersalivation, panting, urination,
defecation) while in the crate. If the dog is anxious, the owner has progressed too fast and should back up in the training.

An older dog may become the victim of aggression from a younger dog in the household, even if they got along previously. While this may be due to the younger dog’s inclination to rise in rank, it is more likely because the older dog is not offering appropriate social signals due to impairment. Often, the younger dog is confused by the lack of appropriate responses by the older dog. In situations like these, it is usually not helpful to “reinforce” or “elevate” one dog over the other because the problem does not lie with rank within the pack. Instead, inappropriate signaling and posturing between the two dogs or increased anxiety on the part of one or both dogs causes increased aggression. Treatment focuses on keeping the older dog safe, controlling the younger dog with basic obedience exercises, structure exercises for both dogs, reintroduction to trigger situations after control has been established and anti-anxiety medications as needed.

Cats can show signs of cognitive dysfunction as well although it may not be as obvious as in dogs because cats may seclude themselves from the family which can be attributed to an independent nature instead of cognitive dysfunction. Cats most commonly are presented for housesoiling and/or nighttime vocalization. As with dogs, cats who are presented for these problems should be evaluated for medical conditions such as renal failure and hyperthyroidism.

Many of the supplements and medications listed above can be used in cats. In addition, benzodiazepines can be used orally on a nightly basis to help alleviate anxiety. Owners should also be aware of stimuli which can cause nighttime vocalizations such as stray cats or animals outside. Blocking access to windows can, by itself help resolve this behavior. Owners should avoid reinforcing this behavior by feeding the cat or letting her outside. Instead, they can confine the cat to a comfortable room at bedtime so that she can’t come to the owner’s room at night and vocalize. Automatic feeders can be used overnight to keep the cat occupied as well. Finally, owners should invest in toys and other environmental enrichment tools in order to keep the cat occupied during the day and overnight.

Geriatric cats who are no longer eliminating in the litterbox should be treated as would any age cat with this problem. They should be evaluated medically as above. Then, the environment should be examined for deficits and management changes should be recommended. The treatment of feline inappropriate elimination is described in detail elsewhere and won’t be repeated here. The height, size and location of the litterbox is especially important for geriatric cats because there may be limitations in mobility and increases in urgency.

As dogs and cats live longer, the likelihood of age related behavior problems increases. With treatment of underlying medical problems and behavioral problems, the quality of life of our geriatric canine friends can be improved tremendously.