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Recognizing Signs of Cognitive Dysfunction

Canine cognitive dysfunction (CCD) shows similarities to human Alzheimer's disease (AD), including changes in behavior and daily routines, the accumulation of amyloid beta in the brain, and a likely role of oxidative stress. The aim of this study was to investigate CCD clinical characteristics, survival, and risk factors. Vitamin E was measured as a possible CCD marker. Owners of 94 dogs over 8 years of age were interviewed using a validated CCD questionnaire, focusing on behavior changes related to disorientation, socioenvironmental interaction, sleep-wake cycle, house-soiling, drinking, appetite, and aggression. Dogs were scored into 3 groups: non-CCD, borderline CCD, and CCD. Additional questions addressed signs of anxiety and abilities associated with learning and memory, given the frequency of these signs in AD and its precursor, mild cogni-

tive impairment (MCI). Dogs were examined, then followed in an observational study until a final owner interview 3–4 years later.

Four key signs prevailed in CCD dogs: daytime sleeping with nighttime restlessness, decreased interaction, disorientation at home, and anxiety. Some borderline cases developed CCD over time, indicating a possible prodromal stage similar to MCI, with the predominant sign being sleep changes. Vitamin E levels did not differ between groups. CCD did not negatively influence survival.

■ Global Commentary

Although there are many signs of CCD, this study identified the 4 most prevalent. The authors also found that a prodromal stage (ie, borderline CCD) could be

equated with MCI in humans and is considered a risk factor for developing dementia (eg, Alzheimer's disease).

Dogs with any anxiety disorder are not only stressed but often *distressed*, and anxiety may decrease life expectancy in humans and dogs. Early recognition and treatment of CCD and borderline CCD are imperative to increasing patient welfare. Using anxiolytic medication in my older canine patients has proven beneficial for dogs and their human companions to improve the quantity and, more importantly, the quality of their lives.—*Kersti Seksel, BVSc (Hons), MRCVS, MA (Hons) FACVSc*

■ ■ Source

An observational study with long-term follow-up of canine cognitive dysfunction: Clinical characteristics, survival, and risk factors. Fast R, Schütt T, Toft N, et al. *JVIM* 27:822-829, 2013.

Keep Colonic Torsion–Volvulus on the Differentials List

If not treated promptly and aggressively, intestinal torsion–volvulus can result in partial or complete luminal obstruction, ischemic injury, endotoxemia, circulatory shock, and cardiovascular failure. Signs and laboratory and radiographic findings can be nonspecific, thereby challenging definitive diagnosis.

Medical records from 6 dogs diagnosed with colonic torsion–volvulus were evaluated. In all cases, dogs were young to middle-aged large breeds that presented with acute to peracute vomiting and/or abdominal pain. Four had previously been treated for gastric dilatation–volvulus (GDV) and had undergone a right-sided prophylactic gastropexy. Abdominal radiographs revealed pathologic bowel dilation, identified as the colon in 1 case. One dog was euthanized because of financial limita-

tions; the remaining dogs immediately underwent abdominal surgery. The colon was found entrapped in the gastropexy site in 3 cases. Two dogs required a partial colectomy. Three received a left abdominal wall colopexy. All dogs that underwent treatment survived to discharge.

Although rare, colonic torsion–volvulus should be suspected in any large-breed dog with severe, nonspecific GI signs and a previous gastropexy. Prompt treatment can result in a good outcome.

■ Commentary

Large intestinal torsion–volvulus is an extremely uncommon condition that is rapidly life threatening; immediate surgical intervention is the only chance of survival. If present, radiographic evidence is helpful, but this is suggestive at best.

Not only should an acute presentation of abdominal discomfort and history of GI disease signal suspicion, but also a history of GDV. History of GDV may likely predispose to other motility issues (eg, large intestinal torsion–volvulus) but actual entrapment at the gastropexy site is also a significant consideration, as this occurred in 50% of the study's cases. Bottom line, the acute abdomen requires rapid action, and immediate surgical intervention could be the difference between life or death.—*Kristy Broaddus, DVM, MS, DACVS*

■ ■ Source

Predisposing factors for colonic torsion/volvulus in dogs: A retrospective study of six cases (1991-2010). Gagnon D, Brisson B. *JAAHA* 49:169-174, 2013.

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