

Prognostic Factors for Gallbladder Mucoceles

Gallbladder mucoceles are an uncommon yet likely underdiagnosed condition of the canine extrahepatic biliary system. Although unclear, the cause is associated with cystic mucinous hyperplasia of the gallbladder wall producing viscous mucus that is unable to exit the gallbladder during normal physiologic contraction. Mucus accumulation may result in obstruction of the common bile duct, leading to extrahepatic biliary tract obstruction and/or progressive gallbladder distention and potential rupture.

To identify prognostic factors for future treatment, 43 dogs with gallbladder mucoceles treated by cholecystectomy were retrospectively evaluated. Older, medium-sized dogs were overrepresented with consistent signs (eg, vomiting, anorexia, lethargy); ultrasonographic findings consistent with gallbladder mucocele were documented in most. Postoperative increased serum lactate values and hypotension were the only prognostic factors negatively associated with survival. Histologic evidence of gallbladder wall necrosis

was evident in 25% of cases, many of which suggested rupture at surgery. Positive bacterial culture of bile was noted in 1 case. Mean survival was 20 months for dogs that survived the perioperative period, with the remaining 23% of cases succumbing to associated disease within 2 months.

■ Commentary

Gallbladder mucoceles should be considered a differential diagnosis for presentation of vague GI distress, particularly in overrepresented breeds (eg, cocker spaniel, Shetland sheepdog, miniature schnauzer). Diagnosis can be accomplished via ultrasonography (kiwi-like appearance within gallbladder lumen). Treatment decision involves the optimal timing for surgical intervention. Further confounding the recommendation for surgery is when these are noted as incidental findings.

Only postoperative prognostic factors were identified in this study. Other previously reported negative prognosticators (eg, presence of bacterial infection or gall-

bladder necrosis) did not impact survival. The role of other interim approaches to increase perioperative survival, including placement of temporary biliary drainage catheters¹ or medical management of cholestasis using liver protectants,² deserves further investigation. Survival following cholecystectomy beyond the short-term postoperative period remains relatively good.—Jason Bleedorn, DVM, DACVS

■ ■ Source

Clinical findings and prognostic factors for dogs undergoing cholecystectomy for gallbladder mucocele. Malek S, Sinclair E, Hosgood G, et al. *VET SURG* doi: 10.1111/j.1532-950X.2012.01072.x.

1. **Minimally invasive cholecystostomy in the dog: Evaluation of placement techniques and use in extrahepatic biliary obstruction.** Murphy SM, Rodriguez JD, McAnulty JF. *Vet Surg* 36:675-683, 2007.
2. **Nonsurgical resolution of gallbladder mucocele in 2 dogs.** Walter R, Dunn ME, d'Anjou MA, Lécuyer M. *JAVMA* 232:1688-1693, 2008.



RESEARCH NOTE: *Bartonella* spp Reservoirs

There are currently 30–40 identified *Bartonella* spp, 14 of which are zoonotic. Various reservoirs exist; rodents and cats have been the most extensively studied. Cats are the principal reservoirs of *B clarridgeiae*, which causes endocarditis in humans, and *B henselae*, which causes cat scratch disease. Little is known about *Bartonella* spp infections in raccoons. This study described 2 *Bartonella* spp in an urban population of raccoons and compared them with *Bartonella* spp infections in feral cats.

DNA was extracted from blood samples of 37 live-trapped raccoons and 37 feral cats on St. Simons Island, an urbanized coastal barrier island in the state of Georgia, and PCR was performed. Nearly half (16 raccoons, 18 cats) tested positive for *Bartonella* spp. Of these, 13 positive raccoon samples and 16 positive cat samples were sequenced for speciation. Twelve raccoons and 13

cats harbored *B henselae*. One raccoon and 1 cat had *B koehlerae*; *B clarridgeiae* was identified in 2 cats.

The relatively high proportion of raccoons harboring *B henselae* is important as it implies raccoons may potentially be another active reservoir host of zoonotic *B henselae* and possibly *B koehlerae*, and there could be cross-species transmission of *Bartonella* spp between feral cats and raccoons. Further study is indicated to elucidate whether *Bartonella* spp infections in raccoons are caused by spillover from feral cats.

■ ■ Source

Bartonella species in raccoons and feral cats, Georgia, USA. Hwang J, Gottdenker NL. *EMERG INFECT DIS* 19:1167-1168, 2013.

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