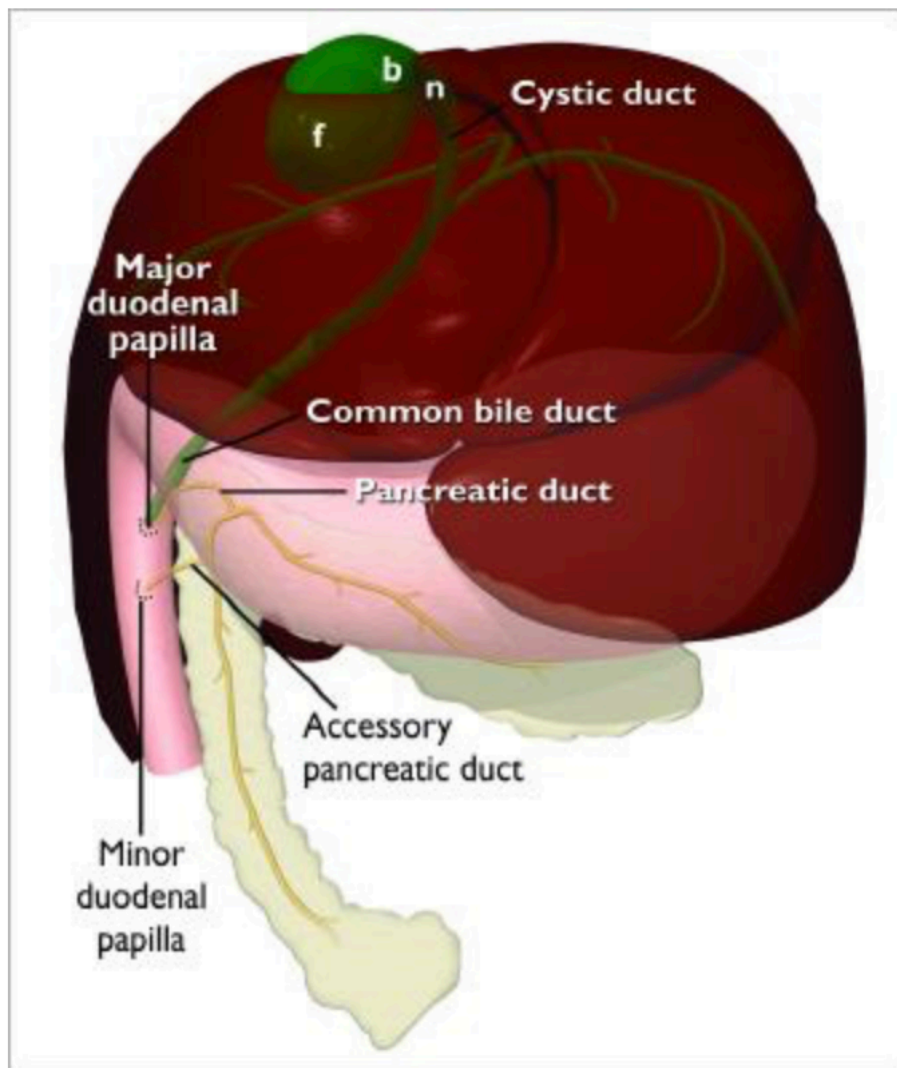


# Gallbladder Mucocele

Associated Terms:

Kiwi Gallbladder, Biliary Mucocele, Cholecystectomy, Necrotizing Cholecystitis, Cholecystitis



**Figure 1.** Schematic drawing of the anatomy of the intra- and extrahepatic biliary tree showing the gallbladder fundus (*f*), body (*b*), and neck (*n*). (Illustration by Felecia Paras)

## OVERVIEW

A gallbladder mucocele is the distention of the gallbladder by an inappropriate accumulation of mucus.

Decreased bile flow, decreased gallbladder motility & altered absorption of water from the gallbladder lumen are predisposing factors to biliary sludge. Biliary sludge may be a precipitating factor for the development of canine biliary mucoceles. However, it is more likely to be a small part of a complex disease process involving inflammation of the gallbladder wall & changes to the lining of the gallbladder changing the consistency of its secretions.

Hypersecretion of mucus leads to an accumulation of thick gelatinous bile within the gall bladder. Increased viscosity over a period of weeks or months leads to thick gelatinous material eventually occupying the entire lumen of the gallbladder & in some cases also being present in the ducts. The inciting cause of mucus hypersecretion is likely multifactorial & may be linked to certain diseases, such as:

- Cushing's Disease (Hyperadrenocorticism)
- Hypothyroidism
- Inflammatory Bowel Disease (IBD)

Certain genetic predispositions may play a role as Shetland sheepdogs were recently shown to be predisposed to gallbladder disease.

## CLINICAL SIGNS

Clinical signs associated with gallbladder mucocele are often non-specific & vague &, in some cases, a mucocele is discovered incidentally. Your pet may show clinical signs including:

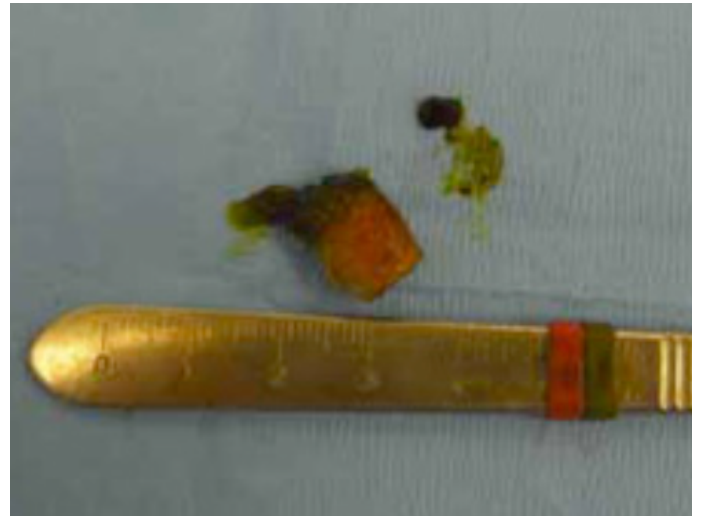
- Abdominal pain
- Anorexia
- Decreased Appetite
- Diarrhea
- Jaundice (a yellowish tinge to the skin or gums)
- Lethargy
- Vomiting

## DIAGNOSTICS

Diagnosis of the gallbladder mucoceles relies on physical examination by your primary care veterinarian & blood work combined with imaging modalities, like abdominal ultrasound.

**Abdominal ultrasound is incredibly useful early in the disease process & should be considered in any animal with clinical signs related to gastrointestinal upset.** Up to half of pets with gallbladder mucoceles have a gallbladder rupture at the time of diagnosis & this number can be greatly reduced with early diagnostic intervention.

The presence & progression of gelatinous material in the gallbladder may lead to a life threatening obstruction of the bile duct or the inflammatory changes to the wall of the gallbladder can lead to rupture & spillage of bile contents into the abdomen.

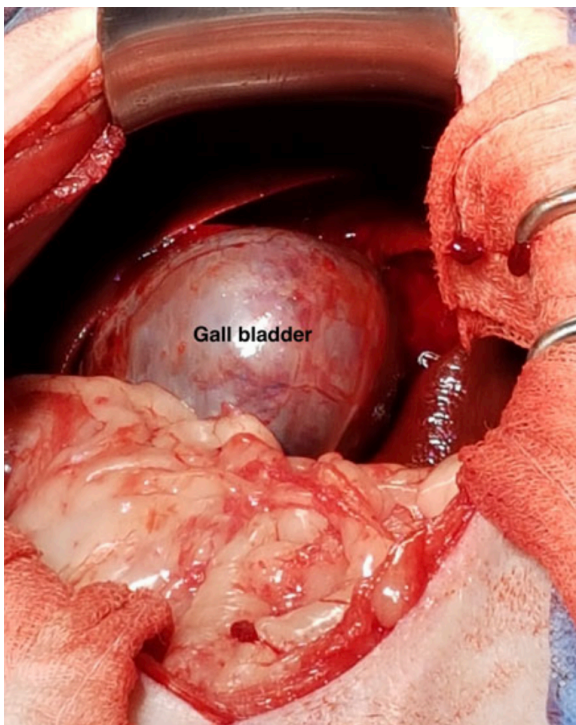


## TREATMENT

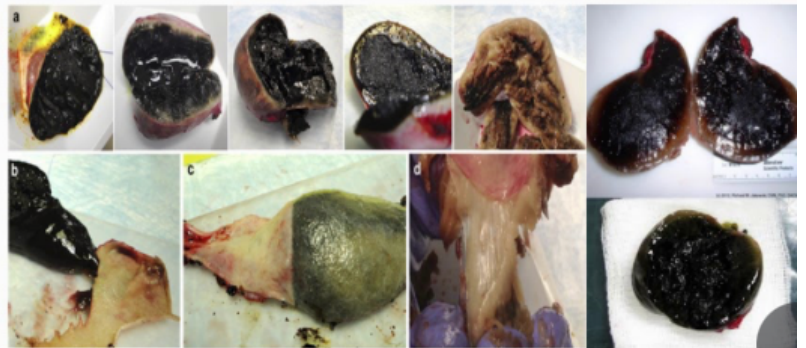
### **A proactive course is recommended in most pets with gallbladder mucoceles.**

Pets with an incidental mucocele or “pre-mucocele” on ultrasound should be considered for removal of the gallbladder, known as *cholecystectomy*. A current trend is to delay removal of the gallbladder of these patients until they have failed medical management, become systemically ill, or the gallbladder has ruptured. This “wait & see” philosophy may raise the likelihood of a life-threatening gallbladder rupture. Many surgeons are now recommending that gallbladder removal be performed in patients with gallbladder mucoceles at initial presentation or if found as an incidental finding on abdominal ultrasound. Routine open or laparoscopic cholecystectomy in the clinically unaffected gallbladder mucocele patient has been found to have an excellent outcome & rapid return to normal function in cases reported.

As with any surgical procedure, there are risks associated with general anesthesia. Pre-operative blood work & imaging & correction of fluid & electrolyte imbalances will help your veterinary surgeon minimize the anesthetic risk. Some patients may require intensive care support before & after surgery. Biliary surgery has inherent risks, including bleeding, & leakage of bile into the abdominal cavity, which can cause peritonitis. Abdominal drains may be needed to help manage peritonitis.



## Gallbladder Mucoceles



## AFTERCARE & OUTCOME

Your pet should be kept quiet for 2 weeks after gallbladder surgery, avoiding running, jumping, playing, stairs or off-leash activity. The abdominal incision should be monitored for appropriate healing. Use of an Elizabethan (E-Collar) is often recommended to prevent licking or self-trauma. A adherent band aid called a PRIMAPORE with antibiotic ointment will cover the surgical incision. The Primapore can be removed after 5 days or require to be removed sooner if dirty or soil. Medications for pain relief & to manage concurrent liver disease or infection are often sent home after surgery. Local 3-day long lasting block for pain management will be used called NOCITA.

Dogs with gallbladder mucoceles that undergo cholecystectomy & survive the immediate peri-operative period have an excellent long term prognosis. Overall mortality rates are reported to be between 20–40% for this disease, however, **early surgical intervention may significantly reduce mortality rates.** The resected gallbladder & a small piece of liver may be submitted for biopsy & bacterial culture by your veterinary surgeon. The results of these tests help the doctors caring for your pet to treat concurrent liver disease & infection.

If you have any questions, please feel free to ask your primary veterinarian &/or veterinary surgeon.

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