Improve Veterinary Education

Clinical Case Studies in Vomiting: Triage, Diagnostics, and Stepwise Management in Dogs and Cats

This handout presents three representative clinical cases of vomiting, selected to illustrate a practical, evidence-informed approach to triage, stabilisation, diagnostic prioritisation, and management. The cases contrast acute, potentially surgical presentations with more benign acute gastroenteritis and chronic feline enteropathy requiring methodical exclusion of differentials and structured dietary trials.

Norman: Acute Vomiting with Shock and Intestinal Obstruction

Norman, a nine-month-old Golden Retriever, presented with a forty-eight-hour history of acute vomiting and an inability to keep anything down. The owner was concerned about an intestinal problem because of the patient's tendency to ingest non-food items. On triage, Norman had a heart rate of 140, weak pulses, a respiratory rate of 40, and an estimated dehydration of approximately 10%. He appeared dull and unwell. This was recognised as a critical triage presentation consistent with shock, with a reported blood pressure of 40, prompting immediate hospitalisation and urgent intervention.

Stabilisation was initiated prior to further procedures because early recognition and treatment of shock improves outcome, even when a young patient remains responsive. An intravenous catheter was placed, and a crystalloid bolus of 20 mL/kg was administered intravenously over 20 minutes. A minimum database was initiated promptly alongside urgent imaging. Differential diagnoses considered at presentation included severe gastroenteritis, noting that severe gastroenteritis without reported diarrhoea is less common in puppies but may be missed by owners; foreign-body obstruction; infectious enteritis such as parvovirus, with parvovirus testing performed as routine in unvaccinated patients; pancreatitis; Addison's disease, while recognising the patient was young; toxin exposure including acute drug exposure; dietary indiscretion and food bloat presenting with a similar picture of hypovolaemic shock; and, very rarely, gastric dilatation–volvulus in a puppy.

Initial laboratory assessment included serum biochemistry and haematology. The chemistry profile demonstrated hypochloraemia, a finding that increases concern for gastrointestinal outflow obstruction. A very mild elevation in liver values was noted, which can occur secondary to intestinal disease. The complete blood count showed neutrophilia. Haematocrit was stable at 41%, and total protein was considered good; these results were obtained after the initial fluid bolus.

Abdominal ultrasonography was available immediately and was performed as the primary imaging modality. Multiple images demonstrated a markedly distended intestinal loop measuring 2.29 cm wall-to-wall. Bunching and curving of intestinal loops were visible, with bands and branching patterns consistent with a shadowing foreign body. On this basis, Norman was diagnosed with an intestinal obstruction secondary to a foreign body.

Pre-operative priorities focused on maximising stability without delaying definitive management in the setting of suspected intestinal plication and risk of perforation. After the initial bolus, blood pressure improved to approximately 80–100. A fluid plan was calculated to correct an estimated 10% deficit over six hours in addition to maintenance requirements, with the aim of rehydrating relatively quickly in preparation for surgery while avoiding unnecessary delay. Analgesia was provided with methadone. Weaker opioids such as butorphanol or buprenorphine were avoided because major intestinal surgery is expected to be significantly painful intra-operatively and post-operatively. Antiemetic therapy included maropitant at 1 mg/kg.

The question of gastric decompression prior to anaesthesia was addressed. In patients with outflow obstruction and severe gastric distension, there is increased risk of regurgitation during induction and aspiration. In selected cases, placement of a nasogastric tube to remove as much gastric fluid as possible before general anaesthesia may be safer. In some dogs and cats, this can be achieved with minimal sedation as part of premedication, and the nasogastric tube may be left in place for surgery.

Surgery confirmed a large foreign body. A resection and anastomosis was required, with approximately 30% of the intestines removed. The foreign material consisted of a large piece of cloth attached to hard white plastic; it was consistent with a pipe-like object the dog had ingested, causing multiple non-viable intestinal segments.

Post-operatively, ongoing pain control and antiemetic support were prioritised while promoting early enteral nutrition. A fentanyl continuous rate infusion was used after surgery and tapered slowly, typically after approximately 10–12 hours. Prolonged fentanyl use was avoided unless strictly necessary because opioids commonly reduce appetite. Methadone was used as needed for rescue analgesia. For nausea control, maropitant was continued and ondansetron was added to encourage return of appetite. Feeding was reintroduced early, with food offered within six hours post-operatively. The clinical goal was for most patients to eat within 12–20 hours after surgery; if they did not, a nasogastric tube was placed to provide nutrition because luminal intake supports gastrointestinal recovery. Norman was managed as an inpatient case.

Tot: Acute Vomiting and Diarrhoea Following Dietary Change

The second case involved a seven-year-old Poodle presenting for acute vomiting and subsequent diarrhoea. The dog vomited twice overnight, appeared quieter than normal, did not finish his food, and developed liquid diarrhoea the following morning. History-taking was emphasised as the key initial step in a stable patient. The dog was described as a picky eater, and the owner felt confident he was unlikely to have ingested a foreign object because he did not chew toys or play with them. He was older, up to date on vaccinations and deworming, and did not attend dog parks because he disliked other dogs. Further discussion revealed a notable dietary change: the household ran out of the usual food two days earlier, and the owner purchased and fed a different brand. This history shifted clinical reasoning toward a more benign differential set.

Physical examination suggested a stable patient rather than a critical presentation. Heart rate was 90 and respiratory rate was 20, with a normal temperature. Mucous membranes were mildly tacky, but capillary refill time was normal. The abdomen was soft with no pain on palpation, and liquid diarrhoea was noted on rectal examination. The assessment was a stable patient with mild dehydration who was still eating, although appetite was reduced.

Differential diagnoses included gastroenteritis due to dietary indiscretion and, most likely, gastroenteritis due to abrupt dietary change. Toxin exposure remained possible, including unrecognised ingestion of ibuprofen or another toxin. Infectious enteritis such as Giardia was considered, while a foreign body and pancreatitis were considered less likely, particularly severe pancreatitis given the absence of abdominal pain.

Diagnostic planning was individualised to clinical likelihood. A minimum database, such as a complete blood count and serum chemistry, was considered sufficient; in some cases where diet change is strongly supported by history, even a minimum database may not be necessary. A faecal assessment was recommended, as Giardia is a relevant concern in acute enteritis. Radiographs were considered unlikely to be necessary.

Treatment addressed mild dehydration and symptomatic control. Subcutaneous fluids were administered, with a total of 400 mL reported, equating to 20 mL/kg under the skin. Maropitant (Cerenia) was given at 1 mg/kg. The dog was discharged with a probiotic, recognising that probiotics can reduce the number of days of diarrhoea in acute enteritis, although supporting evidence varies between products. Dietary management included a bland, highly digestible, low-

fat diet, using either a prescription gastrointestinal formulation offered by multiple brands or a home-cooked alternative.

Milo: Chronic Vomiting in a Cat and the Structured Work-up of Chronic Enteropathy

The third case involved Milo, a five-year-old Persian cat with a three-month history of chronic vomiting and associated weight loss. Milo had a long-standing “sensitive stomach” and had vomited intermittently since kittenhood, historically every two to three months; more recently, vomiting occurred almost daily, prompting significant owner concern. Vomitus sometimes contained food and sometimes bile, and no consistent association was identified between the timing of meals and vomiting episodes. Milo had not received medications or other interventions before presentation. In such patients, a more extensive work-up is required than in straightforward acute gastroenteritis.

Initial diagnostics included a complete blood count and urinalysis, with faecal testing submitted to the laboratory. Total T4 was measured; although hyperthyroidism is unlikely in a five-year-old cat, this was included to ensure a complete work-up. Based on history, the likelihood of foreign body ingestion was considered low, and radiographs were deferred initially in favour of laboratory evaluation.

Blood work was reported as excellent, with normal kidney and liver values and unremarkable systemic laboratory findings. On the complete blood count, haematocrit was 36% and the white blood cell count was normal. Mild lymphopenia was present, which can be a normal finding in cats. Radiographs continued to be deferred, and an abdominal ultrasound was selected next. Ultrasonography was emphasised as a valuable tool in evaluating chronic enteropathies in cats. In Milo, ultrasound showed mild, diffuse relative thickening of the muscularis layer throughout the gastrointestinal tract, accompanied by enlarged lymph nodes.

These findings often prompt owners to ask whether their cat has inflammatory bowel disease. The key teaching point is that “inflammatory bowel disease” is frequently used as a shorthand label, but in practice it is a diagnosis of exclusion reached only after ruling out multiple other causes of chronic vomiting. Not every cat with chronic vomiting has inflammatory bowel disease. Alternative explanations include diet-responsive enteropathy, true inflammatory bowel disease, small-cell lymphoma, infectious disease, an occult foreign body that has not been detected, and chronic pancreatic disease. Cats with chronic pancreatic inflammation or exocrine pancreatic insufficiency can present with chronic vomiting, reinforcing the need for a methodical approach

in both cats and dogs before prematurely concluding that inflammatory bowel disease is the cause.

Additional testing was discussed as helpful in chronic enteropathies. Pancreatitis assessment can be performed using feline pancreatic lipase in cats and canine pancreatic lipase in dogs. Trypsin-like immunoreactivity can be used to rule out exocrine pancreatic insufficiency in dogs. While exocrine pancreatic insufficiency often has a distinct clinical presentation, diagnosis can be more challenging in cats, and some cats with exocrine pancreatic insufficiency may not have diarrhoea. Cobalamin and folate were highlighted as useful vitamin markers. Low cobalamin in a cat with chronic enteropathy suggests a more severe condition and a longer duration of disease, indicating patients that warrant a more serious clinical posture; supplementation of deficient vitamin levels was recommended.

Treatment for Milo began with a dietary trial, planned over two weeks, during which improvement or lack of improvement should become evident. Two principal dietary approaches were described for cats. One approach is the use of hypoallergenic hydrolysed protein diets, in which dietary proteins are processed into very small fragments that are less likely to be recognised as allergens; these are commonly derived from soy or chicken but are hydrolysed. The second approach is the use of novel protein diets, such as duck, rabbit, or venison. Selection of which to trial first is individualised, and in otherwise stable patients it may be necessary to trial more than one diet before concluding that diet is not contributing. A rabbit-based diet may be trialled initially because it is often highly palatable; if ineffective, a hydrolysed protein diet can be trialled next. Throughout dietary selection, nutritional goals must be considered. A young overweight cat may benefit from a lower-calorie diet with relatively high protein. An older cat with mild kidney disease may benefit from a diet with lower phosphorus and possibly lower protein. Diets are not interchangeable, and dietary management should be implemented after appropriate diagnostics and after other conditions have been excluded.

Conclusion

The lecture concluded by returning to the central aim of contrasting these distinct presentations to support a clinical approach to managing vomiting patients, integrating triage awareness, targeted diagnostics, and rational stepwise therapy.