

Management Strategies for Constipated Dogs and Cats

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Constipation is a clinical sign characterized by absent or infrequent defecation associated with retention of feces within the colon and rectum. As the feces remain in the colon, the mucosa continues to absorb water from the fecal mass, which gradually results in hard, dry, impacted feces. Terms associated with constipation include:

- **Dyschezia:** A clinical sign characterized by difficult or painful defecation. It is usually associated with lesions in or near the anal region.
- **Tenesmus:** A clinical sign characterized by ineffective or painful straining to defecate. It usually accompanies dyschezia
- **Obstipation:** A condition of intractable constipation. The colon and rectum have become so impacted with excessively hard feces that defecation cannot occur.
- **Megacolon:** A condition of colonic hypomotility and dilation. The changes associated with megacolon are usually irreversible.

Etiology of constipation

Underlying causes and predisposing factors for constipation include fluid and electrolyte imbalance, environmental factors, pain on defecation or posturing to defecate, dietary factors, neuromuscular disease, obstruction, and drug-induced. In addition, there are several conditions that may cause the owner to erroneously describe constipation as the presenting complaint. Lower urinary tract obstruction, particularly in male cats, is an important imposter to remain aware of. Malnutrition/starvation, wherein the pet is literally not being fed enough food to regularly produce feces, is another unfortunate mimic.

Fluid and electrolyte imbalance

Dehydration can cause the feces to become excessively dry and hard. Hypokalemia and hypercalcemia can impair colonic smooth muscle function. A combination of these factors may explain why constipation can frequently be seen in cats with chronic kidney disease.

Environmental factors

Environmental conditions that are not conducive to defecation or a change from the daily routine from which the pet is accustomed may cause the pet to inhibit the urge to defecate. This may occur when the pet is kept in strange surroundings, such as while boarding or hospitalized. Indoor cats may suppress the urge to defecate if their litterbox is dirty or if there is territorial conflict with other cats in the household.

Ingested foreign material

Indigestible fibrous material (e.g. hair, cloth, plant material) or abrasives (e.g. bones, rocks) may become incorporated into the fecal mass and result in the formation of hard fecal impactions that are difficult and/or painful to pass.

Painful anorectal or orthopedic conditions

Painful anorectal diseases (e.g. anal sacculitis, perianal fistulae, perianal trauma with abscess or cellulitis) or painful orthopedic disease (osteoarthritis of the stifles, hips or spine) that limit posturing to defecate may result in voluntary inhibition of defecation.

Neuromuscular disorders

Neuromuscular disorders may lead to constipation by interfering with colonic innervation (e.g. Manx tail deformity, dysautonomia), smooth muscle function (e.g. hypothyroidism, idiopathic megacolon) or the ability of the animal to posture to defecate (e.g. lumbosacral disease, degenerative myelopathy).

Anorectal or colonic obstruction

Obstruction may result from extramural compression (e.g. benign prostatic hypertrophy, prostatic carcinoma, paraprostatic cyst, or malunion pelvic fracture), intramural obstruction (e.g. neoplasia) or intraluminal obstruction (e.g. rectal stricture, foreign body, perineal hernia, pseudocoprostasis).

Drug-induced

Drug-induced constipation may be a side-effect of motility-modifying drugs (e.g. anticholinergics, opiates, and opioids), diuretics, antihistamines, adrenergic blockers, calcium channel blockers, phenothiazines, benzodiazepines, aluminum hydroxide antacids, sucralfate, barium sulfate, and iron. Chronic overuse of laxatives ironically can lead to constipation.

Clinical signs

Reduced or absent defecation

Constipated animals are usually presented because the owners have noted a failure to defecate over a period of days. The owner may have also noted tenesmus or frequent attempts to defecate with little or no passage of feces.

Abdominal discomfort

Constipated animals may develop a hunched-up appearance or cry out as they attempt to defecate.

Paradoxical diarrhea

Mucosal irritation caused by impacted feces may provoke secretion of fluid and mucus that bypasses the retained fecal mass and is expelled paradoxically as diarrhea during attempts to defecate

Other signs

Prolonged constipation may lead to anorexia, weight loss, lethargy, vomiting, and dehydration.

Diagnostic work-up

Constipation can be established as a problem from history and physical examination. The goal of the diagnostic work-up is to identify the underlying predisposing factors.

Digital rectal examination

To detect painful or obstructive lesions of the anorectal area and pelvic canal. Sedation may be required for examination.

Orthopedic and neurologic examinations

To detect pain or difficulty with posturing.

Minimum database (CBC/chemistry/urinalysis)

To detect underlying systemic disease leading to dehydration or electrolyte imbalance that could contribute to constipation. In severely obstipated animals, especially those with vomiting and dehydration, this also detects the metabolic consequences of obstipation.

Thyroid panel

To detect hypothyroidism in dogs or hyperthyroidism in cats

Abdominal radiographs

To determine the extent of colonic impaction and degree of colonic dilation. In addition, abdominal radiographs can identify underlying causes of constipation such as ingestion of radio-opaque foreign material; pelvic, coxofemoral or spinal skeletal lesions; prostatomegaly; or sublumbar lymphadenopathy.

Advanced diagnostics

Abdominal ultrasonography can evaluate the urogenital tract when prostatic disease or pelvic canal neoplasia is suspected. CT/MRI can further evaluate the pelvic canal as well as the lumbosacral spinal cord. Barium enema contrast radiography can evaluate the lumen of the colon when an intraluminal obstructive lesion is suspected. Colonoscopy can evaluate the lumen of the colon and perform biopsies.

Treatment

Mild constipation (mild-to-moderate impaction of feces without systemic signs such as depression, vomiting, dehydration) can be managed on an outpatient basis using dietary adjustment, increased water intake, suppositories, and/or laxatives. The patient should be re-evaluated after 48 hours.

Severe constipation and obstipation may initially require correction of dehydration and potential electrolyte imbalances before deobstipation is performed. Subsequent to deobstipation, measures such as dietary modification, laxatives, and promotility agents should be prescribed to eliminate or control the underlying causes of constipation to prevent recurrence.

Dietary therapy

High-fiber, bulk-forming diets and additives promote soft feces, decrease intestinal transit time, and reduce the force needed to defecate. The indigestible polysaccharides and cellulose comprising these high-fiber diets are hydrophilic, which traps water in the feces, keeping it softer. The increased bulk of the feces enhance distension of the colon, which helps trigger contraction. High-fiber diets require adequate patient hydration to work; otherwise they will contribute to further fecal impaction. Options for high-fiber diets include commercial diets, wheat bran, oat bran, canned pumpkin (1-5 tbsp/meal), or psyllium (1-5 tsp/meal)

Suppositories

Suppositories work either to soften the stool or to stimulate colonic contractions. 1-3 pediatric suppositories can be administered to veterinary patients. Options for safe suppositories include glycerin (lubricant laxative), docusate (emollient laxative), and bisacodyl (stimulant laxative).

Enemas

Enemas work to soften hard, impacted feces to promote defecation. Warm the enema solution prior to instillation and use a lubricated rubber catheter or feeding tube to administer the calculated dose slowly so as to not induce vomiting. Commonly used enema solutions include warm isotonic saline or tap water (5-10 ml/kg) with a mild soap and/or lubricant jelly, docusate (5-30 ml) or mineral oil (5-30 ml). Do not mix mineral oil and docusate. Docusate promotes mucosal absorption of mineral oil. Mineral oil coats the feces, preventing the emollient effect of docusate. Caution: Never use Fleet enemas (sodium phosphate solution) in cats and small dogs as they can lead to potentially fatal hypernatremia, hyperosmolality, hyperphosphatemia, and hypocalcemia.

Manual deobstipation

In severe obstipation cases, the patient may need intravenous correction of dehydration and electrolyte imbalances followed with manual extraction of feces from the colon with the patient under general anesthesia. Colonic irrigation with warm isotonic saline as an enema can help soften the feces. The fecal masses can be removed by gentle transabdominal manipulation to milk the feces into the

distal rectum for digital or forceps removal. To avoid excessive bowel trauma, it may be advisable to stage colon evacuation over a period of days.

“Hands-free” deobstipation in cats

Intravenous correction of dehydration and electrolyte imbalances should be performed first. Then a nasoesophageal or nasogastric tube is placed. A polyethylene glycol solution (e.g. Colyte, Golytely) is trickled through the tube initially at 5 ml/kg/hr. If that is tolerated, increase to 10 ml/kg/hr. The average total dose needed is 100 ml/kg. Bowel movements typically start in 6-8 hours after starting the trickle.

Oral laxative therapy

Laxatives can be used to treat mild constipation and to prevent recurrence. Laxatives lubricate feces, promote water penetration to soften feces, enhance intestinal mucosal fluid and electrolyte transport, or stimulate colonic propulsive motility. They are classified by their properties and mechanisms of action as bulk-forming, lubricant, emollient, osmotic, stimulant or promotility. Many oral laxatives require normal water intake and patient hydration for optimal activity. The use of an oral laxative often must be individualized by adjusting the dose until the desired frequency and consistency of defecation is achieved.

1. Lubricant laxatives: Lubricate the feces to facilitate evacuation. Overuse can cause fat-soluble vitamin malabsorption. A classic example is flavored white petrolatum products (i.e. “hairball” remedies). Caution: Never use mineral oil orally as a laxative as accidental aspiration can lead to a fatal lipid pneumonia.
2. Emollient laxatives: Promote water penetration into the feces. They should not be used in dehydrated patients. A classic example is docusate.
3. Osmotic laxatives: These disaccharides or inert osmotic agents work to retain water in the bowel lumen. Examples include lactulose (0.5-1 ml/kg q 8-12 hr) or PEG (Miralax; 0.25 tsp/cat q 12 hr).
4. Stimulant laxatives: Increase propulsive motility of the bowel. Overuse of stimulant laxatives can damage the myenteric plexus. They are also contraindicated in the presence of an obstructive lesion. A classic example is bisacodyl (5-20 mg q 24 hr).

Promotility therapy

Promotility agents stimulate colonic smooth muscle contractions. They are contraindicated in the presence of an obstructive lesion. The most effective promotility agent is cisapride (0.5-1.5 mg/kg q 8-12 hr). It is a serotonergic agonist. Currently cisapride is only available through compounding pharmacies as it was taken off the human market due to the development of fatal ventricular arrhythmias that occurred in humans (but have not been documented in dogs and cats). Tegaserod (0.05-0.3 mg/kg q 12 hr) and mosapride (5 mg/cat q 12 hr) are newer serotonergic agonists that have also been investigated for use in cats and dogs.

Ancillary treatment

Following evacuation of constipation, other measures to prevent and control recurrences of constipation include: preventing ingestion of constipating or abrasive materials such as bones; regular grooming to prevent ingestion of loose hair; providing fresh drinking water; providing clean litter for cats; encouraging regular exercise; and correction of obesity.

Megacolon

Megacolon is a condition in which the colon becomes extremely and irreversibly dilated and hypomotile. Recurrent constipation and obstipation are the primary signs. Episodes of constipation usually become more frequent and severe with progression over time. In 70% of cases, feline megacolon is an idiopathic hypomotility disorder involving colonic smooth muscle. Idiopathic megacolon is usually irreversible. In up to 25% of cases, megacolon is secondary to an underlying cause of persistent rectocolonic obstruction, such as perineal hernia, anorectal stricture, anorectal neoplasia, or pelvic canal stenosis caused by fracture malunion. This hypertrophic megacolon is potentially reversible with early removal of the obstruction. After 6 months, however, obstructive megacolon is usually irreversible. Finally, neurologic dysfunction may account for 5% of megacolon cases; for example, lumbosacral spinal cord disease, Manx cat deformity, or dysautonomia

Radiographs are important in the diagnosis of megacolon as they can help screen for an obstructive cause and differentiate a simple episode of constipation from megacolon. A ratio of the maximal colonic diameter to the length of the fifth lumbar vertebra can aid differentiation of constipation from megacolon. In a study by Trevail, et al, a ratio less than 1.28 is suggestive of a normal colon. A ratio of 1.28-1.48 suggests constipation, while a ratio greater than 1.48 is suggestive of megacolon. While high fiber diets can be beneficial in the management of cats with simple constipation, highly digestible low-residue diets are preferable once a cat is diagnosed with megacolon. The increased bulk from fiber will no longer stimulate colonic contractions and instead will just contribute to further fecal impaction. In addition to dietary management, promotility therapy is also indicated for management of megacolon. Subtotal colectomy is often the most effective way to manage cats with advanced megacolon and recurrent obstipation. In the previously mentioned study, all cats with a ratio greater than 1.62 required subtotal colectomy for management.