

## APPROACHES TO MEGACOLON IN CATS

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**Dan Forster** examines the diagnosis, medical management and treatment options for the condition, and underlines the importance of owner vigilance

**MEGACOLON is a disease process most commonly associated with cats, although it can occur in dogs – albeit much less commonly. It presents as an inability to pass faeces (obstipation).**

The outcome of a continual inability to pass faeces is for the colon to become distended and stretched, which thereby exacerbates the problem of evacuating the bowel. This article is an overview of the condition, and will look at the causes of, and treatment for, the condition, taking surgical and medical methods into account.

The large intestine is clearly divided into the caecum, colon and rectum. The colon is suspended throughout its length by the mesocolon, which allows for mobility and variations in position throughout the abdominal cavity. The flexures dividing the colon into ascending, transverse and descending are not precisely fixed. The large intestine extends from the ileocaecocolic junction to the anus and its functions include:

- faecal storage prior to defaecation; and
- absorption – primarily of water, electrolytes and fatty acids.

Faecal transit time is typically 12 to 24 hours, although the stretching ability – coupled with the colon's flexibility in the abdomen – allows for longer periods of transit as necessary.

Faeces retained in the colon for prolonged periods dehydrate and solidify because of continual water absorption. Faecal concretions develop that are difficult and painful for the animal to eliminate. Prolonged, severe colonic distention leads to obstipation and irreversible changes in colonic smooth muscle and nerves, causing inertia. This combination of effects is termed megacolon. Following this scenario, bacterial toxins may be absorbed that lead to depression, anorexia and weakness in the patient.

Cats may exhibit signs of vomiting due to circulating toxins, colonic distension and/or vagal stimulation. Liquid may pass around the impaction, causing diarrhoea, which will often contain blood and/or mucus.

## Causes

Various causes of constipation can subsequently develop into megacolon. These are outlined in [Table 1](#). The most commonly encountered causes are idiopathic megacolon occurring in middle-aged to older cats ([Figure 1](#)). The specific cause is unknown, although some reports suggest that underlying inflammatory bowel disease may play a part. Obstructions are likely to be the next most common cause of megacolon, typically following road traffic accidents with associated old pelvic fractures and malunion ([Figure 2a](#) to [2b](#)). Neurological causes, such as due to tail pull injuries, make up a smaller proportion of megacolon cases.

## Clinical presentation

Clinical presentation is typically middle-aged to older cats, although Manx cats ([Figure 3](#)) were over-represented in a previous study that identified congenital deformity as a cause.

Affected animals are presented for constipation evaluation. Owners typically describe vocalisation of cats while in litter trays with little, if any, faeces produced. Cats often have a history of problems defaecating. Faecal tenesmus, depression, inappetence, weakness, vomiting, poor coat and weight loss may also be seen. Occasionally, bloody diarrhoea, with or without mucus, may be passed. Often, animals present with a severe, chronic disease, as owners may not notice a problem exists if they do not observe their pets' defaecation habits.

## Diagnosis

Diagnosing the condition is usually straightforward. Many patients will have a history of a problem and may already be on prokinetic agents, with or without laxatives. Other cats will present with a history of tenesmus and faecal impaction, which will be readily evident on abdominal palpation. Rectal palpation usually elicits hard faeces at the pelvic inlet.

Further investigation is warranted to search for underlying reasons for the megacolon, so a full

haematology and biochemistry plus thyroxine investigation is a good idea. Radiography will help determine the extent of the megacolon, and may also identify causes, such as pelvic fractures, spinal damage ([Figure 4](#)), intra/extraluminal foreign bodies and tumours.

## Medical management

Initial medical management involves stabilising the patient with IV fluids to maintain a normal fluid status, prior to general anaesthetic to correct the problem. Long-term, non-specific medical therapy is available and treatment is based on a low-residue diet combined with prokinetic agents, such as cisapride or bethanechol chloride (cisapride is no longer available in the UK). Various laxatives can also be used to aid the progress of the faeces through the colon.

Prokinetic agents help increase the smooth muscle tone within the bowel in an effort to increase motility. Cisapride (a serotonin 5-HT<sub>4</sub> agonist) functions by promoting the release of acetylcholine in the gut wall. Although bethanechol hydrochloride (a parasympathomimetic) is a cholinergic used in constipation cases, it can cause hypersalivation.

Prokinetic drugs should not be used during severe constipation/obstipation due to the risk of bowel rupture.

Laxatives are also useful in megacolon management and come in various forms.

- **Osmotic laxatives.** These (such as lactulose) act by drawing water in to the colon. Lactulose is a synthetic disaccharide that is not absorbed into the small intestine. When it reaches the large intestine, the osmotic effect draws water in to the colon, making the faeces more fluid. It has an added effect of being fermented by bacteria to produce acids. The lowered pH can then act to stimulate motility.
- **Lubricant laxatives.** Liquid paraffin (mineral oil) is commonly used. It is best to add flavour to the paraffin to avoid complications (such as aspiration pneumonia) as cats do not enjoy the taste. Some reports suggest administering the product between meals to avoid the risk of leaching out the fat-soluble vitamins.
- **Emollient laxatives (docusate sodium).** These work by promoting water penetration into the faeces. They should not be administered with mineral oils, as they can encourage undesirable absorption.
- **Stimulant laxatives (bisacodyl).** These increase linear peristalsis in the colon and are not to be used in the presence of obstructive lesions.
- **Bulking laxatives.** Diet is important in megacolon cats. Fermentable fibre is regarded as most important in treating constipation. This fibre helps to produce gas, which encourages faecal

breakdown, whereas non-fermentable fibres tend to absorb water. However, a balance is required, and various low-residue diets are available.

## Treatment

The decision on treatment protocol (medical versus surgery) depends on individual cases. As described previously, stabilisation of the patient prior to anaesthetic is important. Following this, faeces can be removed by mechanical removal, or surgical techniques such as sub-total colectomy can be considered.

- **Manual evacuation**

The colon should be evacuated using stool softeners, enemas and digital evacuation. Systemic antibiotics can be used to protect against absorption of bacterial toxins. Manual evacuation requires patience and a combination of manipulation of faeces across the abdominal wall and digital removal of faeces per rectum. Care should be taken as perforation of the bowel is a possibility, particularly in patients that have been evacuated previously.

- **Sub-total colectomy**

The surgical procedure is useful in cats with recurrent problems. It involves removing all the colon apart from a short distal segment that is used to re-establish intestinal continuity.

This ileocaecocolic valve can be resected with the colon or left in place, according to the surgeon's preference. The surgical procedure is not discussed in this article, but is a viable alternative to medical therapy. An excellent outcome can be expected with good surgical technique.

## Conclusion

Many questions still surround the specific cause of idiopathic megacolon in cats, and further research will be useful.

Ultimately, a better outcome is associated with rapid intervention followed by good owner compliance for medical therapy at home. Treatment choice depends on individual cases, and a successful outcome can be achieved with both methods. As ever, owner vigilance at home is crucial to spot potential problems, and this can be aided by educating owners on the pathogenesis of the disease.