

lesson of the month (1)

A case of refractory Ogilvie syndrome following a haemorrhagic stroke

Acute colonic pseudo-obstruction (ACPO), or Ogilvie syndrome, is colonic bowel obstruction without a mechanical cause. Stroke is known to result in autonomic disturbance, which is one of the factors that can lead to ACPO, yet it has only rarely been described post stroke. There are several management options available, including conservative techniques, pharmacological therapies, endoscopic treatments and, finally, surgery. This case highlights effectively the refractory nature that this condition can take, and the different management options that can be used to help resolve it.

Case report

A 75-year-old man was admitted with left hemiplegia and dysarthria. His past medical history included hypertension, cognitive impairment and alcohol excess (40 units/day). A computed tomography (CT) scan revealed a large haemorrhage within the right frontal lobe.

Four days after admission, he had no symptoms but it was noted that his abdomen was distended, non-tender, with high-pitched bowel sounds; rectal examination revealed soft stool. Abdominal radiograph (AXR) showed dilated colon (Fig 1), which was discussed with the surgeons, who inserted a flatus tube.

A CT scan (Fig 2) revealed a grossly distended rectum and sigmoid colon (13 cm), suggestive of pseudo-obstruction, with no evidence of mechanical obstruction. The flatus tube was removed 2 days later once his symptoms had resolved. Flatus tubes were re-inserted and fell out repeatedly over the next 2 weeks, but only resulted in temporary relief of distension each time. Once a mechanical cause was excluded, we administered neostigmine, which resulted in prompt vigorous bowel evacuation with relief of distension, although this was again short lived. We subsequently trialled prucalopride, with little effect.

The patient was assessed by a colorectal surgeon, who arranged flexible sigmoidoscopy decompressions. These also provided short-term symptomatic relief for 4–7 days. However, as his condition continued, the patient became malnourished with recurrent electrolyte anomalies, necessitating intravenous replacement of magnesium and potassium.

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Surgery was deemed risky following his recent stroke and, therefore, medical therapy was pursued for several weeks. In total, the patient required five flatus tubes, four flexible sigmoidoscopies and two doses of neostigmine. As his condition continued to deteriorate, he underwent laparoscopic loop ileostomy formation. Following the operation his electrolyte abnormalities stabilised, his weight increased, and he improved generally with rehabilitation. He was discharged home with a large package of care.

Discussion

Acute colonic pseudo-obstruction (ACPO) was first described by Sir Heneage Ogilvie in 1948, who reported two cases of colonic obstruction without identifying an organic obstructing cause.¹ Shortly after, three further cases were published and these described symptoms of constipation, abdominal distension, increased peristaltic sounds and tympanic abdomen.² Constipation and faecal incontinence are common following stroke,³ but this should be distinguished from cases such as this, where non-mechanical bowel obstruction is the primary cause and is likely to be because of an autonomic disturbance of bowel motility. The aetiology of this autonomic dysfunction might be unclear, but altered autonomic balance with reduced vagal tone is known to occur following stroke.⁴

The incidence of ACPO is unknown. However, 95% of cases are associated with an underlying condition, such as electrolyte imbalances, certain medication (eg anticholinergics) and recent abdominal surgery.^{5,6} Neurological conditions account for 9% of cases, including Parkinson's disease, spinal cord injury, multiple sclerosis and dementia,^{5,6} with rare cases attributed to acute stroke.⁷

Supportive therapy includes correcting electrolyte imbalances (usually potassium, magnesium and calcium) and reviewing medication. Second-line therapy involves flatus tube insertion, which causes resolution in 70% of cases.⁶ In the remaining 30% of cases, pharmacological management is the next option. Neostigmine, an acetylcholinesterase inhibitor that increases colonic contractility, is the first-line treatment. Immediate decompression occurs in 80% of patients, with recurrence in 3–5% of patients.⁶ In refractory cases, an infusion of neostigmine can prove effective.⁸ A polyethylene glycol (PEG) infusion following resolution can also reduce recurrence.⁶ In this patient, neostigmine worked effectively, if only temporarily, on both occasions. Another effective pharmacological agent is prucalopride, a 5-hydroxytryptamine (HT) agonist that promotes colonic contractility.⁹ It has been used off-licence for refractory ACPO with some positive results.¹⁰

A mechanical option is flexible sigmoidoscopy for decompression. The success rates of this treatment range from 61% to 95%, but recurrence is again high (up to 40%).⁶ The final option is surgery, although this is generally reserved for ACPO with



Fig 1. Plain abdominal x-ray showing pan colonic distension.

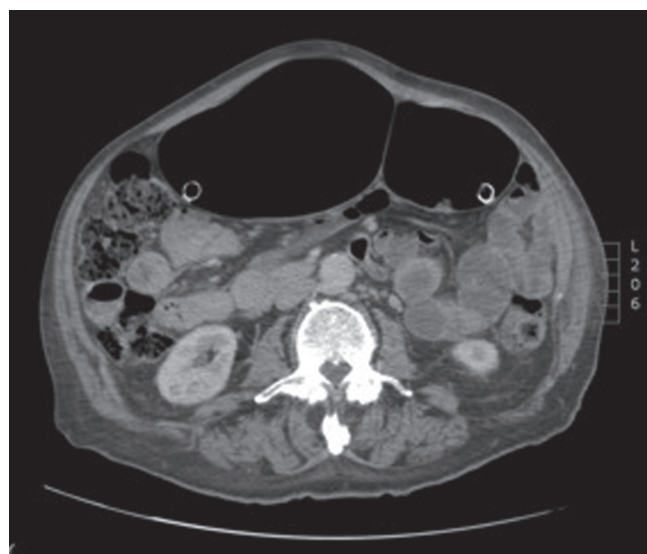


Fig 2. CT scan of the abdomen. CT = computed tomography.

complications (eg ischaemia or perforation) or in refractory cases. In our patient, an ileostomy was formed laparoscopically.

References

- 1 Ogilvie H, Large intestine colic due to sympathetic deprivation: a new clinical syndrome. *Br Med J* 1948;2:671–3.
- 2 Macfarlane J, Kay S. Ogilvie's syndrome of false colonic obstruction: is it a new clinical entity? *Br Med J* 1949;2:1267–9.
- 3 Kumar S, Selim M, Caplan L. Medical complications after stroke. *Lancet Neurol* 2010;9:105–18.
- 4 Barron SA, Rogovski Z, Hemli J. Autonomic consequences of cerebral hemisphere infarction. *Stroke* 1994;25:113–6.
- 5 Camilleri M. *Acute colonic pseudo-obstruction (Ogilvie's syndrome)*. Amsterdam: Wolters Kluwer, 2011.
- 6 Jain A, Vargas D. Advances and challenges in the management of acute colonic pseudo-obstruction (Ogilvie Syndrome). *Clin Colon Rectal Surg* 2012;25:37–45.
- 7 Lee S, Na I, Choi E *et al*. Occurrence of intestinal pseudo-obstruction in a brainstem haemorrhage patient. *Ann Rehabil Med* 2012;36:278–81.
- 8 White L, Sandhu G. Continuous neostigmine infusion versus bolus neostigmine in refractory Ogilvie syndrome. *Am J Emerg Med* 2011;29:576.e1–3.
- 9 National Institute of Care Excellence, 2010. <http://publications.nice.org.uk/prucalopride-for-the-treatment-of-chronic-constipation-in-women-ta211> [Accessed 30 September 2013].
- 10 Smart C, Ramesh A. The successful treatment of acute refractory pseudo-obstruction with prucalopride. *Colorectal Dis* 2012;14:e508.

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