CASE REPORT

Ileostomy obstruction by ingested apricot stone with clinical-radiological-pathological correlation

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SUMMARY

Patients with stomas often present with bowel obstruction, often secondary to adhesions. This case describes the presentation, investigation and management of a 62-year-old woman with an end ileostomy, who presented to hospital with acute abdominal pain and subacute bowel obstruction. Further questioning revealed the recent ingestion of an apricot stone and this was identified by multimodality imaging as the cause of the luminal obstruction in the distal ileum, just proximal to the stoma. After a failed period of conservative management, examination under anaesthesia was performed and digital extraction attempted, but this was unsuccessful. Rather than surgical stoma revision, endoscopic removal was achieved. The patient improved and was discharged the following day. However, her small bowel obstruction relapsed within 48 h. She was readmitted and underwent stoma revision with no further problems.

BACKGROUND

First, this case highlights that luminal causes of bowel obstruction should be considered when managing obstructed patients with an ileostomy. Clinicians of all specialties should be aware of the types of foods that predispose to ileostomy blockage so as to allow for pertinent questions to be asked in the clinical history and to enable patient counselling to prevent future episodes.

In addition, although obstruction due to ingested luminal contents may appear to be easily resolved by removal of the object, clinicians should be aware that this cause of obstruction may reveal an otherwise unsuspected degree of stoma stenosis which may still require revision.

CASE PRESENTATION

A 62-year-old woman was referred by her general practitioner to the emergency surgical team at a teaching hospital with a 5-day history of colicky, central abdominal pain and vomiting. She had a family history of familial adenomatous polyposis (FAP) syndrome and had undergone a total colectomy and end ileostomy formation 31 years ago. She was under surveillance for Barrett's oesophagus and receiving treatment for hypothyroidism and asthma.

The patient recalled swallowing an apricot stone 5 days prior to the admission, but was uncertain as to whether it had passed out into her stoma bag or not. She was experiencing colicky abdominal pain and was unable to keep solid food down. She reported abdominal distension and a significant

reduction in her ileostomy output, which had become more liquid than usual.

At presentation, her physiological parameters were within normal limits. Her abdomen was tender around the stoma site, with some local rigidity and guarding. A firm small mass was palpable in the right iliac fossa. Formal assessment of the ileostomy revealed liquid contents within the bag and healthy stoma mucosa. The stoma lumen was tight at digitation and there was suggestion of a hard intraluminal mass felt at the tip of the examining finger. There was no evidence of inflammation or other macroscopic abnormality of the stoma.

INVESTIGATIONS

Baseline blood tests and urinalysis were unremarkable. The plain abdominal radiograph (figure 1) showed an approximately 4 cm elliptical area in the right iliac fossa with a peripheral region of high density and a band of lucency deep to this with a central nidus of increased density. There was no small bowel dilation on the plain film. Symptoms continued and the patient underwent a CT scan of her abdomen (figures 2–4). Multiplanar images showed an object within the distal ileum, just proximal to the ileostomy. Again, this had a dense periphery, lucent inner band and a dense central nidus.

DIFFERENTIAL DIAGNOSIS

In a patient presenting with this history alone, other causes of bowel obstruction, such as adhesions, must be considered. However, in this case, the clear history and imaging findings confirmed luminal impaction by an apricot stone as the diagnosis.

Figure 1 Abdominal radiograph showing apricot stone in right iliac fossa.

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Figure 2 Axial section of abdominal CT scan showing apricot stone proximal to ileostomy.

TREATMENT

An initial 48 h of conservative management did not show any sign of symptomatic improvement and no apricot stone had passed into the stoma bag. Therefore, an examination under anaesthesia (EUA) of the ileostomy was performed, with consent obtained for stoma dilation or refashioning. At EUA, digital extraction of the stone was unsuccessful. While the patient remained anaesthetised, dilation of the stoma was performed using Hegar dilators. An endoscope was then passed into the lumen of the stoma where the apricot stone was immediately

visualised. Endoscopic retrieval was attempted successfully and revision was felt to be unnecessary at this point. Figure 5 shows a photograph of the stone after retrieval. No endoscopic images were acquired.

OUTCOME AND FOLLOW-UP

Removal of the stone appeared to resolve the patient's symptoms and her ileostomy output normalised. She was discharged the following day. However, she was readmitted the day after discharge with a relapse of the small bowel obstruction at the level of the stoma. Conservative management was trialled for a limited period just in case oedema was causing the ongoing symptoms; however, she eventually required general anaesthesia for stoma revision. Her symptoms then resolved completely with no further complications. At hindsight, the patient may have benefited from a period of observation after the initial dilation to assess if further stoma dilation or refashioning was required.

DISCUSSION

Mechanical ileostomy obstruction secondary to an endoluminal food bolus is an infrequent cause of bowel obstruction in this patient population. However, patients should be appropriately counselled regarding appropriate dietary intake to minimise this risk. There is a wealth of online information regarding appropriate stoma care and diet, for example, <http://www.stomawise.co.uk>. In addition to 'stone' fruit, other foods that can cause ileostomy

Figure 3 Coronal section of abdominal CT scan showing apricot stone proximal to ileostomy.

Figure 4 Sagittal section of abdominal CT scan showing apricot stone proximal to ileostomy.

Figure 5 Photograph of apricot stone postextraction.

obstruction include celery, popcorn, nuts, coleslaw, coconut, Chinese vegetables (such as bamboo shoots and water chestnuts), potato skins, apple skins, and orange rinds.¹ In the published literature, there are only a handful of cases of ileostomy obstruction secondary to a food bolus.^{2–3} End ileostomy stenosis occurs in 2–15% of patients and results of dilation are usually poor.⁴ Despite the fact that most stoma stenosis presents within 5 years of formation, this must be considered as potentially contributing to obstruction even in long-term stomas which appear otherwise healthy.

Learning points

- ▶ Food bolus obstruction should be considered as a differential diagnosis in patients with ileostomy with obstructive symptoms.
- ▶ Imaging, especially cross-sectional imaging, can help to accurately locate the site and cause of the obstruction.
- ▶ Patients with an ileostomy should be appropriately counselled about an appropriate diet to minimise the risk of food bolus obstruction.
- ▶ This case demonstrates food bolus obstruction may unmask subclinical ileostomy stenosis even in a well-established end ileostomy which appears otherwise healthy. Patients should be aware that conservative management with endoscopic removal of luminal obstruction may not be adequate and surgery may still be required.
- ▶ Careful observation of patients who have a luminal stoma obstruction removed is required to determine those patients with ongoing obstructive symptoms.

Competing interests None declared.

Patient consent Obtained.

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