CASE REPORT

Colo-colic intussusception secondary to lipomatous polyp in an adult

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SUMMARY

A woman in her early 50s presented with a 2-week history of gradually worsening colicky abdominal pain with associated vomiting, loose stools and reduced appetite. There was no malaena or perrectal bleeding. On examination, there was tenderness in the epigastric region with an associated palpable fullness. Subsequent imaging revealed a substantial colo-colic intussusception with the lead point being a lipoma of the ascending colon. Subsequent colonic resection was undertaken with histology confirming a lipomatous polyp.

BACKGROUND

This is a rare case of intussusception secondary to a lipomatous polyp and focuses on previous cases and the presentation and management of these patients.

CASE PRESENTATION

A woman in her early 50s presented with a 2-week history of worsening colicky epigastric pain. There was a reduction in appetite, with a 1.5 st weight loss within this period. There was also a 3-day history of passing loose green-coloured stools and vomiting.

On examination, haemodynamic parameters were stable. A large, tender fullness in the epigastric region, extending to the umbilicus, was found. General examination was otherwise unremarkable. There was no significant medical, social or drug history.

INVESTIGATIONS

All haematological and biochemical investigations were normal with the exception of amylase, which was raised at 226 units/l.

Abdominal x-ray showed bowel gas patterns with no specific diagnostic features (figure 1).

CT of the abdomen showed a substantial colo-colic intussusception with the lead point being a lipoma of the proximal ascending colon wall. The involved colon included the caecum and ascending colon, extending to the transverse colon. There was also involvement of vessels and mesentery within the intussusception. The segments were oedematous, but there was no evidence of large or small bowel obstruction. There was some free fluid within the pelvis but no free air within the abdomen (figures 2–5).

DIFFERENTIAL DIAGNOSIS

Based on examination findings, the potential differential diagnoses included gastrointestinal malignancy, inflammatory bowel disease with associated

Figure 1 Non-specific bowel gas pattern.

inflammatory mass and pancreatitis with associated pseudocyst.

TREATMENT

The patient underwent an emergency laparotomy with right hemicolectomy and formation of a double-barrelled stoma. During the operation, the bowel wall was found to be oedematous but viable. A right hemicolectomy was performed to include the lipoma arising from the caecum. The double-barrelled stoma was matured to the right iliac fossa.

Figure 2 Intussuscepted colon causing abnormally dilated large bowel.

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Figure 3 Lipoma in the wall of the proximal ascending colon.

OUTCOME AND FOLLOW-UP

There were no significant complications postoperatively or at 6 months follow-up.

The resected segment of the bowel included 70 mm of the terminal ileum, 260 mm of the caecum and right colon and 50 mm of the appendix. On examination of the resected segment, a large polyp measuring 60 mm×50 mm in the caecum was visualised. It was yellow and lobulated, which indicated a lipomatous polyp; this was confirmed on histological examination. Adjacent to the polyp was an area measuring 40 mm×30 mm, which represented a haemorrhagic infarction. Resection margins were normal.

DISCUSSION

A number of studies have been documented regarding adult intussusception and their different forms of presentation and underlying aetiology.

Azar and Berger undertook a retrospective study of all surgically proven adult (age 18 and over) intussusceptions over a 30-year period at Massachusetts General Hospital. The total patient number was 58, with 14 of these being colonic and the remaining enteric. Of the enteric intussusceptions, 52% were benign and 48% were malignant, whereas 57% of the colonic lesions were benign and 43% were malignant. The most commonly reported symptoms were nausea, vomiting and abdominal pain; melaena, fever, weight loss, constipation, diarrhoea and palpable abdominal mass were less frequently reported. Only 32% of patients had a preoperative diagnosis of

Figure 4 Second image showing lipoma arising from the wall of the ascending colon.

Figure 5 Mesentery and vessels being pulled into intussusception.

intussusception made, with the most common (50%) diagnosis being bowel obstruction. Of the five different diagnostic imaging methods used, CT scan was the most accurate, with a detection rate of 78%.¹

Yalamarthy and Smith described a series of four adult intussusceptions. Of these cases, three presented in a chronic fashion. Case 1 included persistent IDA (iron deficiency anaemia) despite iron replacement therapy. Intussusception was later diagnosed by barium follow-through and subsequent CT. Underlying aetiology was found to be Meckel's diverticulum with traumatic ulcer. Case 2 described chronic dyspepsia, with subsequent endoscopy identifying duodenal lumen obstruction secondary to a polyp. Case 3 was a prolapsing intussusception through the anal canal with associated intermittent abdominal pain and distension. Underlying aetiology was villous adenoma of the caecum. Case 4 was an acute chronic presentation with coffee ground vomiting and intermittent colicky abdominal pain on a background of abdominal pain, vomiting, constipation and weight loss. The CT scan identified likely intussusception, which was found to be secondary to a small bowel tumour during laparotomy.²

These studies show the variable presentations surrounding intussusception. Preoperative diagnosis is therefore difficult and is mostly made intraoperatively. A CT scan is the investigation of choice in terms of its sensitivity. Intussusception can be classified according to location and aetiology. Surgical intervention is necessary in all cases of adult intussusception, the type of which is determined by patient history and intraoperative findings. Resection without reduction is advocated as the best treatment as almost 50% of intussusceptions harbour malignant lesions.¹

Definition and background

Intussusception is defined as a process in which a segment of the intestine invaginates into the adjoining intestinal lumen. Intussusception is the most common cause of intestinal obstruction in children between 3 months and 6 years of age. It is extremely rare in children under 3 months and in older children and adults.³ Adult intussusceptions account for ~5% of all intussusceptions, and represent 1% of all bowel obstructions and 0.003–0.02% of all hospital admissions.¹

The male-to-female ratio is 1:1–1.3, with the mean age being the mid-50s.

Aetiology

About 80–90% of adult intussusceptions are caused by a definite underlying disorder, with only 10–20% being idiopathic.

Causes of intussusception in adults include malignant or benign neoplasms, adhesions, chronic diarrhoea and motility disorders, such as irritable bowel syndrome, gastroparesis and Hirschsprung's disease.⁴ Approximately 65% of intussusceptions are attributable to malignant or benign neoplasms.⁵

Intussusception arises in the small bowel in two-thirds of cases. Most intussusceptions in the small bowel are secondary to benign lesions such as benign neoplasms (lipoma, leiomyoma, haemangioma and neurofibroma), adhesions, Meckel's diverticulum, lymphoid hyperplasia and adenitis. Malignant lesions account for about 15% of causes and are most often metastatic, with melanoma being the most common metastases to cause intussusception. Around 20% of small bowel intussusceptions are idiopathic.⁵

Intussusception in the large bowel is more likely to have a malignant aetiology (50–60%), which reflects a greater prevalence of malignant tumours in the colon compared with the small bowel. Primary malignant lesions are the most common underlying malignant lesions in the colon. Benign lesions constitute about 30%. Idiopathic intussusception in the colon occurs less often than in the small bowel (10%).

Clinical features

Symptoms in adults are often chronic and rarely present as an acute abdomen, unlike intussusception in children.

The majority of adult intussusceptions presents with colicky abdominal pain, nausea and vomiting, change in bowel habit and abdominal distension/mass. Less frequent symptoms include malaena/rectal bleeding, fever and weight loss. Symptoms are usually chronic, but may present as an acute abdomen.⁶

Diagnosis and imaging

Intussusception is best diagnosed with a CT scan, which shows a pathognomonic bowel-within-bowel configuration. Although intussusception is not often considered clinically in the differential diagnosis of adults presenting with vague abdominal complaints, the widespread use of CT means this diagnosis is most often made radiologically.⁵

Intussusception may also be diagnosed with ultrasound scanning or barium enema; however, CT is a superior imaging modality. Additional valuable information, such as underlying pathology or metastases, may also be obtained from CT.

Management

An underlying pathological lead point or predisposing condition is frequently demonstrated, and consequently, non-operative reduction is not the treatment of choice in adults as it is in children.⁵ The type of intervention required depends on the patient's medical history, imaging and intraoperative findings. Limited resection of the intussusception is the management of choice.⁷ Colonoscopic reduction may be considered as another potential means of management.

Although intussusception itself has a very good prognosis, the decisive prognostic factor is the nature of the lesion leading to the process.

Learning points

- ▶ Consider intussusception as a rare cause of abdominal pain in adults.
- ▶ Consider lipomas as a rare cause of intussusception.
- ▶ Surgical intervention is required in the management of adult intussusception.

Competing interests None.

Patient consent Obtained.

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REFERENCES

- 1 Azar T, Berger DL. Adult intussusception. *Ann Surg* 1997;226:134–8.
- 2 Yalamarthy S, Smith RC. Adult intussusception: case reports and review of literature. *Postgrad Med J* 2005;81:174–7.
- 3 Perlstein D. Intussusception. <http://www.medicinenet.com/intussusception/article.htm>
- 4 Blanco F. Intussusception. (updated 29 May 2012) <http://emedicine.medscape.com/article/930708-overview>
- 5 Gayer G, Zissin R, Apter S, et al. Pictorial review: adult intussusception—a CT diagnosis. *Br J Radiol* 2002;75:185–90.
- 6 Choi SH, Han JK, Kim SH, et al. Intussusception in adults: from stomach to rectum. *Am J Roentgenol* 2004;183:691–8.
- 7 Rathore MA, Andrabi SI, Mansha M. Adult intussusception—a surgical dilemma. *J Ayub Med Coll Abbottabad* 2006;18:3–6.

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