Adult intussusception as a cause of chronic intermittent abdominal pain

Nicholas J Fischer, Gerard Bonnet

Clinical—A 67-year-old man was referred to our hospital with a 3-month history of severe intermittent periumbilical pain, causing him to double-over into the foetal position. There were no associated bowel symptoms and no nausea or vomiting. He had a history of diet controlled type 2 diabetes and hypertension but no previous abdominal surgery. The physical examination, including abdominal examination, was unremarkable. Routine blood tests (including full blood count, C-reactive protein, liver function tests and amylase) were within normal limits.

A computed tomography (CT) scan demonstrated intussusception of the terminal ileum into the ascending colon (Figure 1). A 4 cm lesion with Hounsfield units consistent with fat density was located at the end of the intussusceptum (Figures 1,3).

Figure 1. A coronal view CT scan image of our patients abdomen demonstrating the submucosal lipoma (upper arrow), and the entry point of the terminal ileum into the caecum (lower arrow)
Figure 2. The ileum is seen intussuscepting into the caecum on laparoscopy in the direction of the arrow.

Figure 3. The submucosal polypoid lipoma (top arrow) located in the terminal ileum after laparoscopic right hemicolectomy. The lower arrow points to the stalk of the polypoid submucosal lipoma attached to the luminal surface of the ileum.
The diagnosis was confirmed with laparoscopy and the operation proceeded to laparoscopic right hemicolectomy. The histology confirmed the lead point as a submucosal polyoid lipoma.

Our patient made a rapid recovery and was discharged home on postoperative day 3 with resolution of his pain.

**Discussion**—Intussusception is the invagination of a proximal segment of bowel into an adjacent distal segment.\(^6\) Intussusception is relatively rare in adults compared with children and accounts for only 5% of all intussusceptions.\(^1\) It is responsible for approximately 1% of bowel obstruction in adults.\(^1\)

Adult intussusception is initiated by a pathological ‘lead point’ lesion in 83-93% of cases.\(^1\)\(^5\) Conversely, in children intussusception is usually idiopathic.\(^1\)\(^4\) Lead point lesions can be benign, as in our patient, but frequently are malignant, especially in intussusception of the colon.\(^2\)\(^3\)\(^5\)

Benign lesions commonly causing intussusception include lipomas, adhesions, Meckel’s diverticulum and adenoma. Melanoma and lymphoma are responsible for many intussusceptions of the small bowel. Adenocarcinoma can cause intussusception of the colon.\(^1\)\(^4\)\(^5\) The anatomical location of intussusception in adults, frequently involves the small intestine rather than the colon.\(^1\) The ileocaecal valve can also act as a lead point for intussusception.

Symptoms commonly include ‘colicky’ abdominal pain, nausea and vomiting. The classical features of paediatric intussusception including bloody mucoid ‘red current’ jelly ‘stool’ and a palpable ‘sausage’ like abdominal mass are not features of adult intussusception.\(^6\)

The diagnosis of intussusception in adults can be difficult so make a preoperative diagnosis is made in only 32\(^{-}\)38% of cases, with the remainder being made at laparotomy.\(^1\)\(^2\) Computed tomography has been quoted as having a sensitivity of 78%.\(^1\) The characteristic lesion seen is the ‘target sign’ or ‘target mass’ of the intussusceptum enveloped by the intussuscipiens.\(^1\)\(^2\) Other diagnostic studies include ultrasonography, colonoscopy, upper GI contrast series and contrast enema.

The management of intussusception in adults differs from the way it is managed in children due to the underlying aetiology. Intussusception in children may often be reduced with pneumatic or hydrostatic reduction. In adults, intussusception reduction is not recommended due to the risk of ‘seeding’ tumour cells in the process, or the increased risk perforating inflamed bowel.\(^2\)\(^3\) Laparotomy is usually performed in adult intussusception, with resection of the involved segment of bowel.\(^2\)

Several case reports appear in the literature describing laparoscopic surgery in the management of adult intussusception.\(^7\)\(^9\) From our experience, laparoscopic surgery was an effective way to manage our patients intussusception. However, as previously mentioned, in the majority of cases, the diagnosis is actually made during laparotomy, so this method is limited to cases where a preoperative diagnosis is made.
Learning points:

- Intussusception in children usually affects children aged 6 months to 4 years and presents with colicky abdominal pain, bloody mucoid "red current jelly" stool and a palpable "sausage"-like abdominal mass and the aetiology is idiopathic.
- Adult intussusception presents with colicky abdominal pain and features of bowel obstruction. The aetiology is predominantly due to a pathological "dead point" which may be benign or malignant.

Author information: Nicholas J Fischer, Surgical Registrar, Dunedin Hospital, Dunedin; Gerard Bonnet, General Surgeon, Whanganui Hospital, Whanganui

Acknowledgments: We thank Mr William Pollard, Dr Medhat Osman and Dr Jim Montgomery for their assistance.

Correspondence: Dr Nicholas Fischer, General Surgery, Dunedin Hospital, Great King Street, Dunedin 9016, New Zealand. Email fischer_9@hotmail.com

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