Intermittent intestinal obstruction due to chronic colo-colic intussusception

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Abstract

A two year old boy presented with a two month history of intermittent bloody diarrhoea, and associated intermittent colicky abdominal pain and weight loss. A small mass was palpable over the left abdomen. Abdominal radiograph showed colonic obstruction and barium enema revealed colo-colic intussusception. At laparotomy, the intussusception had reduced spontaneously and was found to be caused by a benign juvenile polyp. The clinical and imaging features, and management of the chronic form of intussusception are discussed.

Case report

A two year old Chinese boy presented with a two month history of intermittent diarrhoea. Mucus and blood was occasionally noted in the stools. There was associated intermittent colicky abdominal pain and weight loss of 2 kg. The child enjoyed previous good health. Prior to admission, he was seen by a private practitioner and had been treated with antibiotics without improvement. On examination, a small firm mass was palpable over the left upper abdomen. Ultrasound scan did not however show any abnormality. Stool cultures for various micro-organisms, and blood serology and cultures, were all negative.

Abdominal radiograph (Figure 1), done during the next severe episode

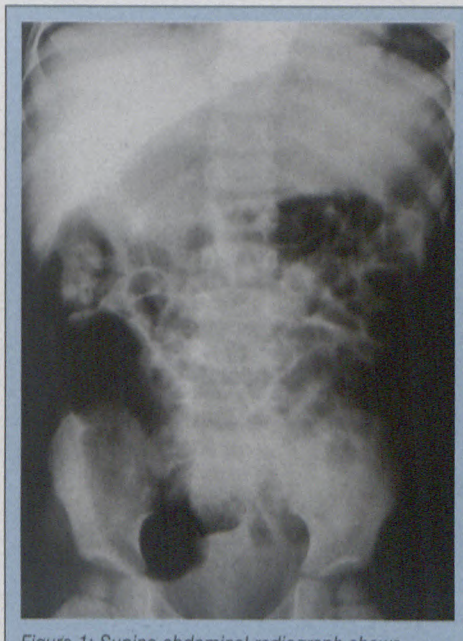

Figure 1: Supine abdominal radiograph shows dilatation of the small bowel and the proximal hemi-colon.

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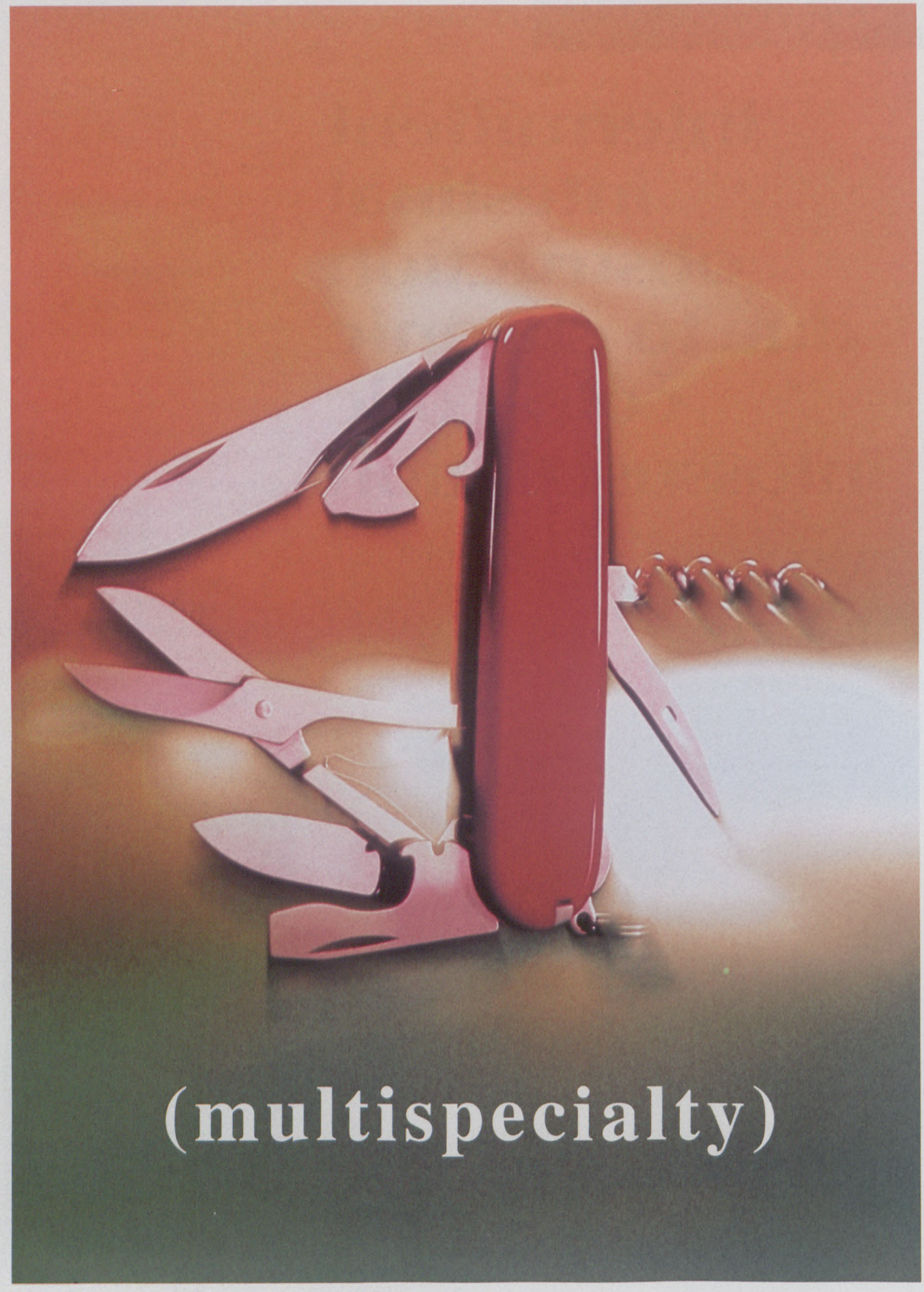
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of abdominal pain, showed dilated loops of gas-filled small bowel, as well as distention of the ascending and transverse colon. An urgent barium enema was performed on suspicion of colonic obstruction in the region of the splenic flexure. Complete obstruction at the proximal descending colon was confirmed, with a concave defect at the head of the barium column and a classic "coiled-spring" appearance, typical of intussusception, beyond that (Figure 2). Combination of plain radiographic and barium enema findings were highly suggestive of the colo-colic type of intussusception. In addition, there was a polypoidal filling defect located just distal to the intussusception site on the barium study (Figure 2). Attempted hydrostatic reduction of intussusception using barium was unsuccessful.

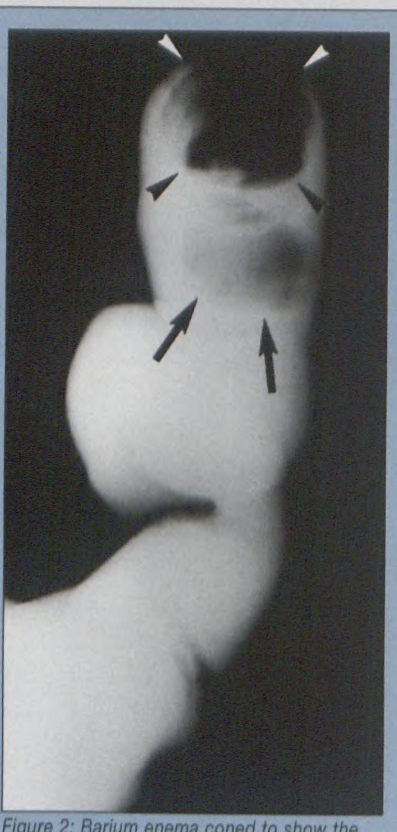

Figure 2: Barium enema coned to show the descending colon and proximal sigmoid colon shows the "coiled-spring" appearance of intussusception (arrowheads), as well as a polypoidal filling defect (arrows).

Laparotomy was performed later the same day. At surgery however, the colo-colic intussusception was found to have reduced spontaneously. A mass was palpable within the proximal descending colon and colotomy revealed a 3.5 x 2.5 x 1.7 cm polyp (Figures 3a and b), corresponding in site to the polypoidal filling defect seen on barium enema. Histopathology of the excised specimen showed features of a benign juvenile polyp. The patient recovered uneventfully and has remained well to date.

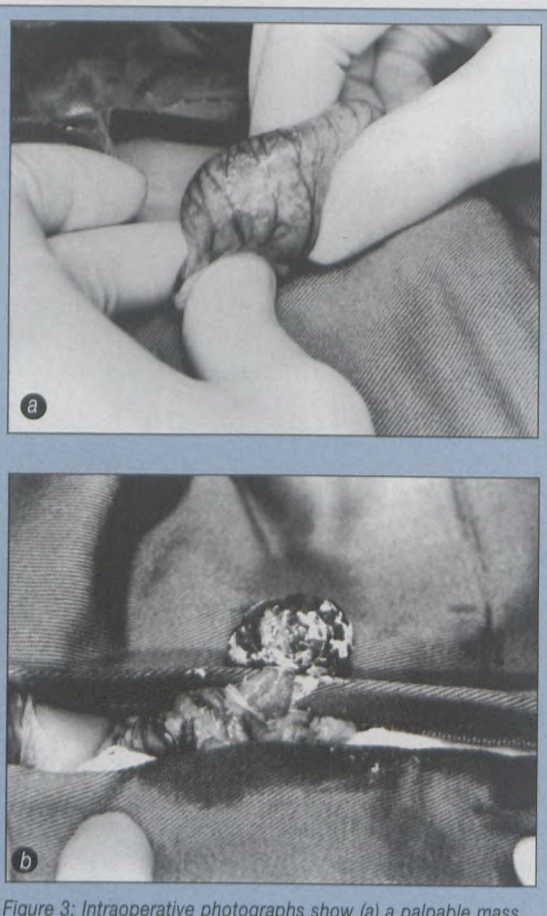

Figure 3: Intraoperative photographs show (a) a palpable mass within the proximal descending colon, and (b) colotomy revealing the lead point, a juvenile polyp.

Discussion

Intestinal intussusception is a common surgical emergency in children, requiring urgent diagnosis and treatment. Acute intussusception is usually considered early in the differential diagnosis of a young child presenting with a short history of abdominal pain and vomiting. Chronic intestinal intussusception of greater than two weeks duration is uncommon, occurring in 6.5% of patients in one large series.[1] Chronic intussusception behaves differently from the acute form in that abdominal pain and vomiting are less severe, with diarrhoea and weight loss being recognized features. Chronic intussusception may even rarely present as failure to thrive. Except for the typical intermittent colicky abdominal pain, symptoms of chronic intussusception are generally rather non-specific.[2-4] Chronic intussusception tends to be found in older children and it has been suggested that at an older age, the anatomy is such that intussusception occurs without significant impairment of the blood supply.[1]

Ultrasound is now regarded as an accurate method to diagnose intussusception, offering the advantages of being quick, simple, non-invasive and radiation-free. It has been recommended that contrast enema should be reserved for ultrasonically-equivocal cases or for therapeutic reduction.[5] Spontaneous reduction of intussusception has been reported to occur.[6,7] On retrospect, the clinical picture of this patient fitted that of a chronic, intermittent-occurring and spontaneously-reducing intussusception. At the

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time of ultrasound and at surgery, the intussusceptum was not identified, while in-between, it produced the characteristic barium enema appearances of intussusception.

Colo-colic intussusception is the least frequently encountered type of intussusception, while the ileo-colic type is by far the commonest form.[8] Although detection of lead points using ultrasound has been reported,[9] the site of the polyp within a gas- and faecal-filled colon and absence of the spontaneously-reduced intussusceptum probably made ultrasonic assessment difficult in this patient. Causative lead points are not detected in the majority of intussusceptions, being reported in only 2.5-10% of cases.[10,11]

The presence of barium interposed between the intussusceptum and intussuscipiens, the so-called "dissection sign", could have contributed to failure of hydrostatic reduction in this patient. The "dissection sign" causes concentric compression of the intussusceptum and hence a decrease in the reductive force, due to fluid dynamics of the dissected barium. There is evidence that this sign may be a reliable predictor of failure of hydrostatic reduction.[12] In any case, even successful reduction of an intussusception does not exclude a lead point. Careful review of all imaging studies and meticulous examination during laparotomy should be carried out to diagnose lead points in order that they may be adequately treated. As chronic intussusception is frequently associated with a predisposing lesion and a low success rate of hydrostatic reduction, early surgical intervention is recommended for this form of intussusception.[4]

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