Transient jejuno-jejunal intussusception in an anabolic steroid user—A case report

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A B S T R A C T
INTRODUCTION: Adult intussusception (AI) is both a challenging and rare diagnosis, with predisposing factors including malignancy, surgery and infection to name a few. Transient jejunal intussusception is a subset of AI which is usually diagnosed radiologically, with diagnostic laparoscopy utilised to determine whether a malignant cause is identifiable and subsequently treatable.

PRESENTING CASE: We present the case of a previously healthy 36-year-old male diagnosed with transient jejunal intussusception on computed tomography after presenting with abdominal pain. Blood tests on admission were normal apart from polycythaemia. His only significant history was that of chronic anabolic steroid use. He had a subsequent normal gastroscopy and colonoscopy with diagnostic laparoscopy demonstrating thickening of the small bowel. Histopathological analysis of the intraoperative specimen was normal. The patient improved and was discharged with no further complications.

CONCLUSION: This case highlights the potential association between anabolic steroid use resulting in polycythaemia, and AI or transient jejunal intussusception, along with further validating a conservative approach in the management of AI in patients deemed to be low risk of malignancy on pre-operative evaluation.

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1. Introduction

Adult intussusception (AI) is a challenging diagnosis. Reported frequently in children, intussusception is a rare presentation in adults, with an incidence of 2–3 per 100000 and a predominance in females [1]. In addition to this, AI accounts for only 1–5% of bowel obstructions with a pathologic lead point identifiable in up to 90% of cases [2,3]. Most AIs arise from the small bowel, with the majority of lesions being benign with a rate of 50–75% in published series [4–6]. The predominant cause of AI is neoplastic of which both malignant and benign neoplasms have been implicated. Although malignancy is implicated in a large majority of AI, aetiologies of AI include surgery-related AI, idiopathic and infection among others [7].

Transient jejunal intussusception is a rare pathological condition and is usually a diagnosis of exclusion, with risk factors including Crohn’s disease, celiac disease, inflammation and adhesions [8–13]. Computed tomography (CT) scan remains the gold standard for diagnosis while diagnostic laparoscopy is an essential tool in distinguishing transient from persistent intussusception by excluding a pathological process such as a tumour. The current report presents the case of an adult male who was diagnosed with jejuno-jejunal intussusception on abdominal CT which had subsequently resolved on diagnostic laparoscopy. His medical history was complicated by chronic anabolic steroid use. The work has been reported in line with the SCARE criteria [14]. The informed consent was obtained from the patient for publication of this case report.

2. Case presentation

A 36-year-old male presented to the emergency department of a metropolitan hospital complaining of abdominal pain, described as intermittent and crampy. He denied previous episodes of similar pain in the past. He denied any previous medical history with nil previous abdominal surgery reported. On further history he admitted to the chronic use of oxandrolone, an anandrogen and anabolic steroid. On examination, he was haemodynamically stable, with periumbilical tenderness detected on abdominal palpation. Examination was otherwise remarkable.

Blood samples were obtained from the patient which revealed an elevated haemoglobin at 164 g/L and haematocrit of 50%. CT scan of the patient’s abdomen demonstrated mild diffuse small bowel wall thickening, with two separate areas of apparent short

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intussusception in the routine clinical setting is a rare phenomenon, with a reported incidence of less than 1% of all children presenting with abdominal pain. It is more common in young children, typically under the age of 2 years, and is often associated with transient bowel obstruction. The clinical presentation is variable and can include abdominal pain, vomiting, fever, and a palpable mass. In some cases, intussusception can lead to bowel ischemia and potential bowel wall thickening.

The authors acknowledge that the presented patient’s haemoglobin levels were only mildly elevated, and their lack of comorbid conditions, normal preoperative biochemistry, and normal intraoperative biopsy are in line with the argument that the patient is healthy, with no evidence of underlying disease.

CT scan results showed the presence of a ‘target sign’, which is highly suggestive of intussusception. CT scan can also provide additional information, including the type and location of intussusception, length, and diameter, possible lead point, mesenteric vasculature, the possibility of strangulation and obstruction, or signs suggestive of malignancy.

In conclusion, intussusception is a rare but important clinical entity, with a variable presentation and a high potential for bowel obstruction and ischemia. Early diagnosis and timely intervention are crucial for the successful management of intussusception.
and will resolve with conservative measures and follow-up imaging studies to monitor the resolution status of intussusception [27–29]. In this addition, although surgery remains the mainstay of management in adult intussusception, enteric intussusception can be managed by reduction followed by resection [30]. The rationale behind en-bloc resection in intussusception is based on a theoretical risk of venous embolization of potential malignant cells on manipulation of the affected segment of bowel, and the risk of bowel perforation resulting in peritoneal seeding of malignant cells. There is a definite lack of evidence to support this theory. A recent meta-analysis reported small bowel malignancy being the cause of intussusception in 22.5 % and 36.9 % of enteric and ileocolic intussusceptions respectively, thus supporting the approach for laparoscopic reduction and subsequent resection [30]. The authors argue that the presented patient’s lack of features suggestive of malignancy on clinical history, biochemistry and radiology, and subsequent apparent resolution of intussusception on diagnostic laparoscopy favour a conservative approach. This is further supported by a normal intra-operative biopsy of the affected portion of small bowel. Further research is needed to shed light on how long conservative management should be considered until escalation to surgical management is indicated in patients deemed low risk on history, clinical examination, biochemistry and radiological assessment [4–6].

4. Conclusion

Transient jejunal intussusception, a rare form of AI, is usually idiopathic in nature and diagnosed on radiological analysis. This report highlights a potential relation of transient jejunal intussusception to chronic anabolic steroid use. In addition to this, this report provides further evidence for a conservative approach in the management of AI in patients with clinical and radiological features which are contrary to the diagnosis of malignancy.

Declaration of Competing Interest

The authors declare no conflicts of interest in the production of this case report.

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Ethical approval

This case report is exempt from ethical approval by our institution.

Consent

Informed consent was obtained from the patient for publication of this case report.

Author contribution

Dr Marie Shella De Robles and Dr Robert O’Neill were involved in the writing of the presented case report. Associate Professor Christopher Young and Dr Marie Shella De Robles were involved in the clinical care of the patient.

Registration of research studies

This is not a ‘first in humans’ report, so it is not in need of registration.

Guarantor

Associate Professor Christopher Young.

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