

Ileocolic Intestinal Intussusception in Adults: A Case Report

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While intussusception is relatively common in children, it is a rare clinical entity in adults. We present a case of a 50 year-old male with ileocecal intussusception, which was treated by right hemicolectomy. In adults, this condition is almost always secondary to a definable lesion, which was a submucous lipoma in this case.

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Intestinal obstruction is a common surgical emergency that demands early diagnosis and intervention. Intussusception, as a cause of intestinal obstruction in adult, is rare entity that differs greatly from its pediatric counterpart¹. Approximately 90% of cases are secondary to a definable lesion, while the opposite is true in children^{1,2}. Emergency clinical diagnosis is generally difficult and most commonly established in the operating theater, as opposed to children who present with characteristic symptoms and signs of sudden onset of intermittent colic, vomiting, current jelly stool and a palpable mass. Contrary to the management of intussusception in children in which about 80% of patients are treated effectively by pneumatic or hydrostatic reduction, treatment of this condition is not always clear-cut mostly would include surgical resection^{3,4}.

THE CASE

Fifty years old man presented to the Accident and emergency department in October 1999 with crampy central abdominal pain, persistent vomiting and constipation for three days. He was diabetic non-smoker with otherwise insignificant past medical history. Systemic physical examination upon presentation was essentially unremarkable except for mild dehydration. His abdomen was mildly distended with hyperactive bowel sounds. Abdominal X-rays (erect and supine) suggested distal small bowel obstruction. Upright CXR showed a coin lesion in the middle zone of the right lung. Urgent CT abdomen and barium enema were requested. They both revealed intussusception at the ileocecal region with characteristic 'dough-nut sign' and a well-circumscribed 'tumor' visualized at the tip of the intussusceptum, most probably a submucous lipoma, Figure 1 and 2. Patient underwent urgent laparotomy. Operative findings were consistent with the preoperative diagnosis of ileo-colic intussusception. Right hemicolectomy and end-to-end anastomosis were carried out. Postoperatively, patient recovered very well as far as the gastrointestinal

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side. Unfortunately, he developed right-sided pneumonia in the 6th postoperative day, which was refractory to conservative management. Therefore, he was transferred to the chest ward for further care. The possibility of underlying lung malignancy was considered by the chest physician, supported by CXR findings stated earlier. CT- guided FNAC of the suspicious lung lesion was highly suggestive of poorly differentiated adenocarcinoma? primary? metastatic. Patient left against medical advise and refused further investigations. We requested the pathologist to re-examine the resected specimen, thinking that the leading point might have been colon cancer with lung metastasis. Submucous lipoma was again confirmed. Patient went for second opinion abroad where he received chemotherapy for his lung cancer. Two months later, he was re-admitted to the oncology ward in our hospital with disseminated lung malignancy and respiratory failure. Supportive measures and terminal care was given. The patient died few weeks later. Lung malignancy was another pathology in this unlucky patient.

DISCUSSION

Intestinal obstruction is a common surgical emergency, and because of its serious nature, it demands early diagnosis and speedy relief. Most cases of intestinal obstruction are mechanical in origin, and are due to occlusion of the lumen of the bowel, caused by extrinsic, intrinsic and intraluminal causes⁵. Intestinal intussusception is a common cause of intestinal obstruction in pediatric surgical practice, where it is the predominant cause of intestinal obstruction in children aged 3 months to 6 years. They develop ileocolic intussusception, probably from hyperplasia of Peyer's patches secondary to a viral infection. In contrast, adult intussusception is an unusual and challenging condition to the treating surgeon. It can cause both small and large bowel obstruction. Intussusception presents with a variety of acute, intermittent, and chronic symptoms, making preoperative diagnosis difficult¹. Frequently, the diagnosis is just an occasional finding during imaging examinations⁶. Adult intussusception represents 1% of all bowel obstructions¹, 5% of all intussusceptions¹, and only 0.08% of abdominal surgeries⁷. The incidence of adult intussusception is equal in both sexes² unlike pediatric intussusception where male: female ratio is 3: 1.

In about 90% of the intussusception in adults there is a leading point, a well definable pathologic abnormality^{1,2,3,8}. Peristalsis and ingested food push the lesion with the adjacent normal bowel (intussusceptum), which telescopes into the relaxed intestinal segment distal to it (intussusciptum). Anatomically, it can happen any where throughout the bowel but the preferred locations are junctions between freely moving segments and retroperitoneally (eg. ileocecal region) or adhesional fixed segments³. **Begos**, et al reviewed several moderate to large series examining this condition with an overall number of 1048 cases³. They showed that the majority of cases (64%) arose from the small bowel. A consistent observation was the nature of the pathology at each site. In general, the majority in the small bowel are benign (63%) eg. benign tumors (lipomas, leiomyomas, hemangiomas, neurofibroma), Meckel's diverticuli, adhesions, adenomatous polyp and inflammatory lesions. Intussusception occurring in the large bowel, on the other hand, is more likely to have a malignant etiology (55%) including adenocarcinoma, lymphoma and leiomyosarcoma. Iatrogenic intussusception has been

reported following colonoscopy and flexible sigmoidoscopy^{3,9}. Malignant lesions tend to cluster in older patients. The median age of patients with malignant disease is 60 years versus 44 years for those with benign disease².

Intussusception can present in a variety of pictures involving a complex of acute, intermittent, and chronic symptoms. The classic form is that of acute distal small bowel or large bowel obstruction. However, the clinical picture is often inconclusive and the diagnosis can then be confirmed by a radiological mean. Most series report abdominal pain as the most common symptom, being present in 90% of patients^{3,4,10}. At physical examination abdominal masses have been variously reported in 24-42%⁷. Long-standing painless intussusception is considered to be rare and may be caused by tuberculosis¹¹. Patient can present as a case of lower gastrointestinal bleeding^{3,10,12}.

Modern imaging techniques can be of significant help in defining intussusception preoperatively. Plain abdominal films may provide important information regarding the site of obstruction. Colonic symptoms may be further evaluated by barium enema, which will show the characteristic cup-shaped filling defect³. Ultrasonography has been used to evaluate suspected cases but the major limitation is the presence of air in the bowel leading to poor quality images^{2,3}. The most useful diagnostic tool is computed tomography (CT scan)². The classic CT finding is an inhomogeneous soft tissue mass, containing low and high-density structures, and producing a layered or stratified pattern. The mass is usually target (or donut) or sausage-shaped (or kidney-shaped), depending on the angle of the CT beam against the intussusception^{3,10,13}.

The treatment of adult intussusception is not universally agreed upon. All authors agree that laparotomy is mandatory, based upon the likelihood of identifying a pathological lesion. The current weight of evidence supports that colonic intussusception should be resected en bloc, without attempt of reduction, given the high likelihood of malignancy (58%)^{2,3,4}. In small bowel intussusception, reduction is better attempted unless signs of bowel ischemia are present, especially in whom a benign diagnosis has been made preoperatively or in whom resection may result in short gut syndrome^{2,3}. Although in general resection is advocated, simpler procedures like polypectomy, diverticulectomy and adhesiolysis in patients with benign polyp, Meckel's diverticulum and adhesion respectively, may be just adequate. In highly selected patients, with no clinical, laboratory, or radiological evidence of ischemia, a cautious attempt of hydrostatic reduction may be contemplated³. This may facilitate preparation of the bowel prior to surgery and allow for one-stage procedure. The patients in this case report had a one-stage procedure of right hemicolectomy and end-to-end anastomosis without attempt of reduction.

CONCLUSION

Intussusception in adults is a rare challenging entity that requires pre-operative diagnostic skill and careful and considerate intra-operative judgment. It is generally caused by definable intraluminal pathology and can present with a variety of clinical pictures. The diagnosis can be made readily by many radiological

modalities. Surgical management is the rule and resection without reduction is the preferred approach in colonic ones.

We presented a case of adult intussusception caused by submucous lipoma, treated by right hemicolectomy and end to end anastomosis.

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