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Review Article

Intussusception in adults

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ABSTRACT

Intussusception in adult population is quite uncommon. It is usually seen in the pediatric age group. A wide range of causes can predispose to intussusception in adults. Majority of them are benign especially in cases of small bowel intussusception. However malignancy is quite often encountered in cases of colonic intussusception. Diagnosis in adults is difficult due to vague symptoms and intermittent nature. Computerized tomography is diagnostic. However majority of cases in adults are diagnosed at laparotomy. Surgical resection assuming the lesion to be malignant is the treatment of choice.

Keywords: Intussusception, Adults, Diagnosis, Management

INTRODUCTION

Intussusception is traditionally defined as telescoping of the proximal segment of bowel into the lumen of distal bowel. Five percent of cases are seen in the adult population.[1] The incidence of intussusception as a cause of bowel obstruction in adults is 1-5%.[2,3] The classic diagnostic triad of abdominal pain, red currant jelly stools and sausage shaped mass usually seen in the pediatric population may not be present in adults. Awareness of the variability in clinical features and treatment options is essential for the attending surgeon to avoid misdiagnosis and mismanagement.

Etiopathogenesis

The commonest type of intussusception seen in adults is ileocolic.[3] The pathology is predominately seen in the small intestine (Figure 1). This could be a submucosal lipoma, fibroma, polyp, Meckel's diverticulum, hemangioma or in cases of Peutz Jegher's syndrome.[4] Malignancy as a cause for intussusception is seen in carcinomas, lymphomas, malignant histiocytomas and metastases. Disorderly peristalsis leads to intussusception. The presence of a focal lesion in the bowel wall alters the progression of peristalsis. The bowel at the site of the lesion fails to contract leading to disorderly peristalsis.

This tends to push the proximal bowel into the lumen of distal segment. The site of lesion usually serves as the lead point, best described as the apex of intussusception in a classical specimen. The prolapsed bowel become edematous thereby compromises the lumen of bowel eventually leading to bowel obstruction. If left untreated it also causes compromise of the blood supply resulting in gangrene.[5] Though the ileocolic type is the commonest four types have been described.

- Enteroenteric involving only the small bowel
- Colocolic involving only the large bowel
- Ileocolic involving the terminal ileum and ascending colon
- Ileocaecal where in the ileocolic valve happens to be the apex.

All the aforementioned four varieties are always ante grade in nature.[5] Retrograde intussusception though

extremely rare is usually seen in patients who have undergone gastrojejunostomy.[6]

Figure 1: Ileocolic intussusception

Clinical features

In adults the clinical features are variable with respect to onset and duration. The commonest symptom is abdominal pain.[7] The pain is usually variable in location but usually experienced in the lower abdomen. It is associated with nausea, vomiting, lower gastrointestinal bleed eventually leading to constipation, and abdominal distention culminating into obstruction. In a few cases the symptoms may be self-limiting thereby giving rise to intermittency by virtue of spontaneous reduction. Therefore it is extremely difficult to arrive at a definitive diagnosis of intussusception in adult population.

Diagnosis

Vague abdominal pain associated with intermittency and development of an occasional lump in the right side of the lower abdomen should raise the suspicion of intussusception. Plain X-ray abdomen in early stages may be unremarkable. However in advanced stages it may show signs of bowel obstruction.

Ultrasonography may be useful and suggestive. The diagnostic appearance on ultrasonography is typically described as the target sign or doughnut sign. However this investigation is performer dependant and at times may be missed by an inexperienced sonologist. Computerized tomography is the best modality for diagnosing intussusception.[8]

A target sign or a sausage shaped soft tissue density with layering of tissue is diagnostic. (Figure 2) This is usually due to significant oedema of the bowel and mesentery. CT scan also gives a clear idea of the mesenteric vasculature. The possible lead point may also be identified.

Endoscopy is also an important diagnostic tool. However as these patients present in an emergency situation, an unprepared bowel makes colonoscopy extremely difficult to perform.[9] Due to the variability of this disease, despite the availability of excellent imaging techniques, a few cases may still escape preoperative diagnosis. Such cases are therefore diagnosed intraoperatively.

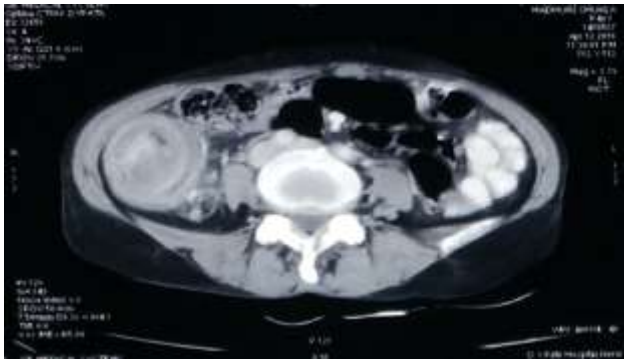

Figure 2: CT scan showing the typical target sign.

Treatment

The traditional treatment of hydrostatic barium enema yields good results in the pediatric population. However this does not hold true in adult population.[10] There is always an underlying pathology which predisposes to intussusception in adults. This underlying pathology needs to be identified and diagnosed in order to achieve a definitive cure. Hence surgical intervention is mandatory for all adult cases. During the course of laparotomy the pathology is identified. If the blood supply is doubtful then resection anastomosis of the entire lesion is the mainstay of treatment. If the lesion involves the colon then no attempt should be made to reduce the intussusception.[9,10] Excessive handling of the affected segment of the bowel can cause dissemination of malignant cells both locally as well as regionally. However if the lesion involves only the small bowel then a gentle attempt to reduce the intussusception by retrograde method of manipulating or pushing from the distal segment to the proximal segment can be made.[11] This will push behind the lead point (Figure 3).

Figure 3: Technique for reduction of intussusception.

After the bowel is reduced the lesion is palpable within the lumen of proximal bowel. A wide resection anastomosis in conformity with the oncological principle is the safest approach. This tackles even malignant

lesions serving as a lead point. In cases of gangrenous lesions with long standing obstruction, there is either an extensive accumulation of bowel contents proximally or in cases of proximal perforation there is an extensive peritonitis.[12,13] A proximal diversion in the form of a loop ileostomy is the safest option. This allows the septic process to be brought under control. In the meantime diagnosis of the lesion will allow the surgeon to determine the best course of surgical treatment as a second stage surgery.[12]

CONCLUSIONS

Intussusception in adults is a rare but deceptive lesion. Variability of clinical features adds to the diagnostic deception. CECT is the investigation of choice for a preoperative diagnosis. Exploratory laparotomy however is confirmatory for this deceptive lesion. A wide surgical resection of the lesion based on standard oncological principles is the mainstay of surgical treatment.

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