

Intussusception in Adults: An Institutional Experience

Dr SS Prasad*, Dr Padma Priya J**

*Department Of Surgery

**Department Of Pathology

Kasturba Medical College Manipal University, Manipal Karnataka, India

ABSTRACT:Background: Intussusception is a rare cause of intestinal obstruction in adults. Most of the information available on this unusual entity in adults is in the form of case reports. We present a single centre experience of this enigmatic entity over a period of 10 years.

Methods :33 cases of intussusceptions involving various parts of gastro intestinal tract of adults were retrospectively studied from medical records. The clinical, radiological and pathological aspects these cases were evaluated. The treatment methods adapted were studied.

Results: Intussusception in adults involved various parts of gastrointestinal tract. There were retrograde jejuno gastric, jejuno jejunal, ileocolic, colocolic and colorectal intussusceptions. Plain X rays, ultrasound scans and CT scans were employed to image these cases. CT scan seems to be the most accurate imaging modality to diagnose intussusception. Endoscopy can be a useful tool in select cases. Most adult intussusceptions required surgery for definitive diagnosis and treatment.

Conclusion :Intussusception can be a rare cause of intestinal obstruction in adults. Most cases have a definite lead point and hence will require surgery. While CT scan is the preferred imaging modality endoscopic studies can be useful adjuncts.

ABBREVIATIONS: AI – Adult Intussusception, CT – Computed tomography

KEYWORDS: intussusception, adults

I. Introduction

Although Barbette in 1674 first reported intussusception, John Hunter in 1789 coined the term “intussusception” [1,2]. Intussusception, defined as invagination of a segment of the bowel (intussusceptum) and associated mesentery into the adjacent bowel lumen (intussusciens), is an uncommon entity in adults. Intussusception is the primary cause of intestinal obstruction in pediatric population. On the other hand, adult intussusception (AI) is a rare entity accounting for 0.1% of all adult hospital admissions, 5 to 16 % of all intussusceptions and 1 %-5% of all bowel obstructions [3]. In contrast to idiopathic nature of 95% of pediatric intussusceptions, over 90 % of AI are attributable to a demonstrable cause such as neoplasms or non neoplastic conditions like inflammatory bowel disease, polyps, postoperative adhesions, Meckel’s or colonic diverticulum and only 8%-20% are idiopathic [3-5]. AI commonly present as non specific, intermittent chronic abdominal pain in contrast to the classical pediatric presentation of sudden colicky abdominal pain, bloody diarrhea and a palpable tender mass. Acute abdominal emergency variant of intussusception is rarely seen in adults. Lack of pathognomonic features in this rare surgical condition makes pre operative diagnosis a very difficult task. Management of AI mandates surgical resection in 70%-90% of cases [4]. However the extent of resection and the practice of preoperative reduction remains controversial [3,4,6].

II. Materials And Methods

This is a retrospective study done in Kasturba Hospital, Manipal. Medical records of adult patients with intussusception presenting to Kasturba Medical College and Hospital during the period from 2005 to 2015 were retrieved and relevant data was collected and analysed. Inclusion criteria: All patients over 18 years of age presenting with clinical features attributable to intussusception and proved radiologically and/or intraoperative as having intussusception were included in the study .Exclusion criteria: All patients under 18 years of age were excluded from the study

III. RESULTS

During the study period 33 adult patients presented to Kasturba Hospital with intussusception. Their demographic and clinical profile is as shown in Table1

| | |
|--------------------------|---------------|
| Age | 22 – 87 years |
| Male: Female | 21:12 |
| Acute abdominal pain | 13 |
| Recurrent abdominal pain | 16 |
| Others | 4 |

Table 1: Demographic and clinical profile of subjects

Patients in this series were evaluated with plain X rays of abdomen, ultra sound scan and CT scan of the abdomen. Plain X ray of the abdomen showed multiple air-fluid levels in 21 cases. Ultrasound scan was performed in 29 cases and could diagnose intussusception in 20 cases. Contrast enhanced CT scan was performed in 24 cases and it accurately diagnosed intussusception in all the cases. In addition to diagnosing intussusception, CT scan identified the lead point of intussusception in 18 cases.

28 patients underwent surgery for intussusception. Of these 28 patients 26 underwent open surgery and 2 patients underwent laparoscopic surgery. A definite lead point was identified in 22 cases. The summary of type of intussusception and pathological findings including the lead point of these 22 patients is as shown in Table 2 and 3

| Type of intussusception | Number of cases(33) |
|---|---------------------|
| Retrograde jejuno gastric intussusception | 3 |
| Jejunojunal intussusception | 9 |
| Ileoileal intussusception | 4 |
| Ileo colic intussusception | 13 |
| Colo colic intussusception | 3 |
| Colorectal intussusception | 1 |

Table 2: Types of intussusception as suggested by CT scan and surgical findings

| Lead point | Number of cases (22) |
|---------------------------------------|----------------------|
| Benign polyps, Peutz-Jeghers syndrome | 6 |
| Lipoma | 2 |
| Adenocarcinoma | 7 |
| Lymphoma | 3 |
| Tuberculosis | 3 |
| Amoebiasis | 1 |

Table 3: Details of lead point patients who underwent surgery

The details of the surgical procedure performed is as summarized in Table 4

| Type of Surgery | Number of cases(28) |
|--|---------------------|
| Exploratory laparotomy + small bowel resection | 12 |
| Ileo colic resection / right hemicolectomy | 9 |
| Left hemicolectomy | 1 |
| Others | 6 |

Table 4: Procedures performed on patients who underwent surgery

All the 28 patients who underwent surgery recovered well from the surgery. However those with malignant aetiology required additional therapeutic options which was not considered as a part of this study

IV. Discussion

Intussusception is an enigmatic entity and is one of the rare causes of intestinal obstruction in adults. Although the entity is rare, the significant number of cases seen in our study could be due to the fact that our hospital is a tertiary referral centre. While we have better experience and understanding of intussusception among paediatric population, most of our knowledge on AI stems from information available from case reports. Intussusception in adults can involve any part of gastrointestinal tract. Unlike in paediatric population, most AIs have a definite precipitating factor or a lead point which is usually demonstrable during surgery(7-10). The classical triad of abdominal pain, bloody diarrhoea and tender mass per abdomen is rarely found in adult population. Among adults the symptoms of intussusception seem to be nonspecific mostly due to partial, intermittent nature of resulting intestinal obstruction(3, 11). This is also evident in our series as shown in Table 1.

Due to rarity of the condition, preoperative diagnosis of intussusception can be very challenging in adults. Plain X ray studies in such patients may reveal signs of intestinal obstruction like multiple air fluid levels and dilated bowel loops. Ultrasonography can be a useful tool in experienced hands(12). The classical findings of intussusception on ultrasound scan has been described as “target sign” or “doughnut sign” or “pseudo kidney sign”(12,13). CT scan is the most useful imaging modality to diagnose intussusception. CT scan provides information on the location of the intussusception, lead point, and presence of intestinal obstruction and viability of the bowel(3,14,15). The fact that CT scan diagnosed intussusception in all subjected cases patients in our series further underscores the usefulness of the CT scan. In select cases endoscopic studies can be quite useful.

In this study, oesophagogastroduodenoscopy diagnosed 3 cases of retrograde jejuno gastric intussusception. Colonoscopy successfully identified and reduced a colocolic intussusception resulting from amoebic colitis in one of the patients.

Most AIs will have a lead point because of surgery is almost mandatory. The extent of bowel resection and the method of handling involved bowel are debatable issues. Many authorities argue against reduction of intussusception for the following reasons –

- Significant risk of malignant lead point
- Inability to differentiate benign and malignant possibilities of the lead point
- Risk of seeding and dissemination of tumor cells if the lead point is malignant

In those instances such as ileocolic intussusceptions or intussusception in elderly population where the risk of malignant lead point is high formal surgical procedures which are tailored for given malignancies such as radical colectomies are recommended. In our study, 10 cases had malignant lead point. In all these cases there was high suspicion of malignancy intraoperatively and thus were treated with radical surgeries. 3 cases were eventually diagnosed with lymphomas.

V. Conclusion

- Intussusception can be a rare cause of intestinal obstruction among adults
- A high degree of suspicion and prompt evaluation with CT scan can help in arriving at diagnosis
- Endoscopy can be a useful adjunct in select cases.
- Most cases require surgery and most workers discourage manipulation of involved bowel.
- In high risk cases, aradical surgery is recommended.

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