

Adult Intussusception

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Objectives: Adult intussusception is a rare entity. We present four cases of this condition.

Design: Retrospective review.

Setting: Surgical Department, Salmaniya Medical Centre.

Method: During a period of 11 years (1992-2003), the presenting features, investigation, and management of four intussusception cases were reviewed.

Results: Four cases were found in our records over this long period indicating its rarity. The patients were two females and two males with age ranging from 22 to 61 years. The presentation was right lower quadrant pain in two patients and bowel obstruction in the other two. Radiological investigation was done for all, but the diagnosis was confirmed on exploratory laparotomy. Most of them were of ileo-ileal origin. No malignancy was reported.

Conclusion: Adult intussusception is a rare entity. Clinical awareness and radiological investigation are very important in diagnosis. Surgical treatment is the rule in all cases.

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INTRODUCTION

Intussusception is primarily a disease of pediatric age group and is rare in adults where it is usually secondary to a definable lesion, while the opposite is true in children¹. It occurs when a proximal segment of intestine (intussusceptum) telescopes into the intestinal segment distal to it (intussusciens)^{1,2}. The most common sites of occurrence are the junctions between the freely moving segments of the bowel and segments that are relatively fixed, either due to their retroperitoneal location or to adhesions. Examples include ileo-colic, colo-colic, and entero-enteral intussusception^{1,3}. Emergency clinical diagnosis is generally difficult and most commonly established in the operating theatre, as opposed to children who present with characteristic symptoms and signs. Contrary to

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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. It mostly would include surgical resection^{3,4}. We present four cases of this rare condition.

Case 1

Twenty-two year old Bahraini male known case of Peutz–Jeghers' Syndrome, presented to emergency department on 9.8.1992 with localized continuous right lower quadrant pain for two days duration. The pain was increasing in severity; it was associated with vomiting. On examination, there was a palpable, tender, mobile mass in right iliac fossa. Bowel sounds were hyperactive.

Barium enema was done which was not significant*. He underwent exploratory laparotomy. It revealed a terminal ileo–ileal intussusception with multiple polyps. The polyps were varying in size between 2-4 cm pedunculating from distal jejunum to ileum. Reduction was done with resection of the involved segment of ileum and end to end anastomosis. Histopathological examination revealed hamartomatous polyps consistent with Peutz-Jeghers' Syndrome. The patient had uneventful recovery and was discharged on 9th post-operative day.

Case 2

Sixty-one year old Bahraini female presented to surgical clinic on 17.11.1994 with right lower colicky abdominal pain of two months duration. The pain was intermittent. It was associated with constipation. There was no significant past history. On examination, there was tenderness in the right iliac fossa but no palpable masses. Bowel sounds were normal. Abdominal ultrasound showed well defined soft tissue opacity in right iliac fossa that was suggestive of intussusception)*. The diagnosis was confirmed by barium meal follow-through that showed a filling defect measuring about 4x5 cm in proximal ileum with evidence of intussusception distal to the mass* . The patient underwent exploratory laparotomy, which revealed an ileo-ileal intussusception with a large polyp as leading point. Resection of the involved bowel segment including the polyp was performed. The histopathological examination showed an inflammatory fibroid polyp with no malignancy. The patient had uneventful recovery and was discharged within two weeks.

Case 3

Fifty year old male patient known case of diabetes Mellitus presented to emergency department on 24.10.1999 with central colicky abdominal pain, vomiting and constipation for three days duration. Past history was insignificant. On general examination, he was dehydrated. The abdomen was not tender. It was distended with hyperactive bowel sounds. Plain abdominal x-rays revealed signs of small bowel obstruction. Urgent CT abdomen and Barium enema showed intussusception at ileo-

cecal region (Figure I & II). The patient underwent urgent laparotomy, the diagnosis was confirmed and right hemicolectomy was performed. Histopathological examination showed a submucosa lipoma. Patient had chest infection postoperatively and was referred to chest physician.

Figure 1 & 2

Case 4

Fifty-five year old female Bahraini patient admitted on 9.9.2003 through emergency department. She was having history of central abdominal pain of 10 days duration. It was colicky in nature and becoming worse. It was associated with vomiting and constipation. There was no past medical or surgical history. On examination, the abdomen was distended and bowel sounds were exaggerated. Plain x-ray of abdomen showed signs of small bowel obstruction. Abdominal ultrasound and CT scan were performed (Figure III & IV), both were suggestive of intussusception. Exploratory laparotomy confirmed the diagnosis. There was an ileo-ileal intussusception with a polyp that was the leading point. Resection of involved segment with end to end anastomosis was performed. Pathological examination of the lesion revealed an inflammatory pseudo-tumor. The patient had uneventful recovery.

Figure 3 & 4

* Radiological investigations were lost from the Radiology Department.

DISCUSSION

Intussusception although common in pediatrics, it is rare in adults. Adult intussusception represents 5% of all intussusceptions and 1% of all bowel obstructions^{2,5}. It is usually associated with a definable cause or pre-existing lesion in 70% to 90% of cases^{1,2}.

The pre-existing pathology could be either benign lesion such as leiomyoma, hamartoma or due to malignant tumors. Furthermore, postoperative adhesions, Meckel's diverticulum, lymphoid hyperplasia and some systemic diseases such as AIDS are other potential predisposing factors. Adult colonic intussusceptions are caused by malignant tumors in 48% of cases and benign tumors in 21%, the remaining cases are non neoplastic. In contrast, small bowel intussusception results from benign tumors in 40% of cases; from malignant tumors in 17%; and from nonneoplastic lesions in the remaining cases^{6,8,9}. In this study three patients had ileo-ileal intussusception and one had ileo-cecal intussusception. The underlying pathology was benign in all four cases. The leading pathological causes were hamartomatous polyp, fibroid polyp, inflammatory pseudotumor and submucosa lipoma.

Adult Intussusception has no uniform presenting symptoms; therefore, its clinical presentation is non-specific. Its presentation varies from acute to chronic symptoms. The predominant symptoms are usually those of bowel obstruction that includes abdominal

pain, vomiting and constipation. Rarely, can it present with abdominal mass or blood in stool. The most predominant symptoms in our cases were of intestinal obstruction. Two patients had localized abdominal pain mainly in the right lower abdomen at the site of intussusception. The other two had symptoms of intestinal obstruction: abdominal pain, vomiting and constipation. Only one patient had a palpable mass on examination. The duration of symptoms varied in all cases from 2 days to 2 months. The male to female ratio was 1:1 in our patients. In comparison to other studies, there was no difference^{1,2}.

Imaging studies plays a significant role in diagnosing intussusception. Plain abdominal x-rays may help in identifying the site of obstruction. Ultrasonography can also help in diagnosis, which shows the typical concentric hyperechoic double ring coupled with thickening of the intestinal walls⁷. However its diagnostic value is limited in the evaluation of acute obstructive symptoms, as air in the bowel typically results in poor signal transmission¹. Contrast study, can be used, in particular barium enema especially if colonic symptoms are present. It can be utilized as both diagnostic and therapeutic modality in children; however it adds little to the evaluation in adults¹. The most useful imaging technique is CT scan, which shows the classic findings of intussusception which is an inhomogeneous soft tissue mass, containing low and high density structures. The mass is usually target or doughnut shaped^{1,2,5}. In all of our cases different imaging modalities were used, which aid in the diagnosis of intussusception pre-operatively. It was not necessary to use all modalities to reach the diagnosis in each case, for example, in case 1 and 2, contrast studies played a significant role in diagnosis; while in the remaining two cases (case 3 and 4) CT scan confirmed the diagnosis. The diagnostic algorithm for adult intussusception may require only abdominal plain films and CT scan before surgical intervention¹.

The treatment of adult intussusception remains controversial; all authors agree that resection is necessary, as the possibility of the pathological lesion to be malignant is usually present. However, a question remains regarding the role of reduction prior to resection¹. Reduction of an intussusception with suspected malignancy should be avoided, since it can cause bowel perforation and tumor cell dissemination^{1,7}. Resection of the involved bowel is indicated in adults, not like children where simple reduction of intussusception is enough. In all four cases, resection of the involved bowel including the intussusception and the leading lesion was performed.

CONCLUSION

Intussusception in adults is one of the causes of intestinal obstruction. It is a rare disease that is generally caused by definable intraluminal pathology. The combination of clinical findings and diagnostic studies can aid in diagnosis of intussusception preoperatively. The most useful diagnostic radiological method is the CT scan. Surgical intervention is the rule in treatment and resection is the definitive method for adult intussusception. However, the choice of the operation depends on the clinical condition of the patient, the status of the bowel and site of the intussusception.

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