

Adult Intussusception –Temple of Surprise 7 Year Experience in Sialkot

1. Sajid Hussain 2. Iman Hakim Din 3. Anila Farooq

1. Senior Consultant Surgeon 2. Medical Officer 3 WMO, Department of General Surgery, Khawaja Muhammad Safdar Medical College > Govt. A.I.M.H Sialkot.

ABSTRACT

Background: Intussusception is a rare entity in adults, it is expected to be found in 1/30,000 of all hospital admission, 1/1300 of all abdominal operations, 1/30 to 1/100 of all cases operated for intestinal obstruction, and one adult intussusception for every 20 childhood.

Study Design: Retrospective case series study.

Place and duration of Study: This study was carried out at the department of surgery Allama Iqbal Memorial Teaching Hospital Sialkot from June 2006 to June 2013.

Materials and Methods: While operating cases for intestinal obstruction five cases of adult intussusception with M-F ratio was 4:1, mean age was 46.5 year. Ileo-Ileal Intussusception were found in all cases

Results: All five patients presented with intestinal obstruction on radiological evidences, exploratory laparotomy were carried out, four patients had Ileo-Ileal Intussusception while fifth one involved terminal ileum for which right hemicolectomy was performed. All patients recovered and discharged home.

Conclusion: Adult Intussusception is a rare entity usually has a causative pathological lead point and always difficult to diagnose, always treated by surgery.

Key Words: Adult, Intussusception, Lead point, Exploratory Laparotomy.

INTRODUCTION

Abdominal pain is one of the commonest cause of acute surgical admissions, clinical assessment and investigations are always directed towards excluding common ailment like acute appendicitis, intestinal obstruction and like wise for chronic pain to investigate malignancy, inflammatory bowel disease, peptic ulcer disease, hepatobiliary diseases, clinical presentations and all sorts of investigations often explain the pathology but not always, hence abdomen has been declared as temple of surprise.¹

Adult intussusception is rare entity (0.0003 to 0.02%) of all hospital admissions. It is a common cause of bowel obstruction and acute abdomen in children.² It is about 5% of all intussusception and 1% of bowel obstruction.³

90% of all adult intussusception were associated with an underlying pathological process,^{4, 5} with majority lesions found to be malignant neoplasms,⁶ in rest of the cases trauma, colonic diverticuli, polyps and post operative etiologies have been postulated.

It mostly involves the junction of mobile with the fixed segment of the ileum like enteric, colonic, and ileocolic. Ileocaecal valve is the lead point.

The mechanism of developing idiopathic intussusception is not well understood but it is related to longitudinal forces acting along the gut wall. The internal imbalance of the forces can be caused by a mass acting as lead point or by the disorganized peristalsis e.g. ileum in post operative period lead to

invagination just like telescoping of proximal segment into distal segment..

MATERIALS AND METHODS

We have retrospectively reviewed the medical record of adult patients > 18 years with intussusception treated surgically in our unit from June 2006 to June 2013. We reviewed the complete record of five patients, their clinical status, operative findings and pathological reports.

Case 1: A 65 years male with two years history of intractable crampy back to front abdominal pain, history of vomiting, passage of dark red blood per rectum. Patient had past history of Mayo's Repair 2 years back; plain x ray abdomen showed multiple air fluid levels. CT scan demonstrate atypical soft tissue mass in ileocaecal region, because of the suspicion exploratory laparotomy performed and it revealed to be a ileocaecal intussusception, gangrenous loops entered caecum through ileocaecal valve. Right hemicolectomy was performed.

Case 2: A 70 years old male who also got appendicectomy 10 years back. Since then he was constantly complaining of pain abdomen colicky in nature, recurrent bouts of vomiting and constipation without any palpable mass. Plain x-ray radiography showed ileal loop of intestine; ileo ileal intussusception was found, resection of diseased part of ileum and anastomosis done.

Case 3: A 60 year old female was admitted with history of persistent pain in abdomen from last 4 years which was mild to moderate in intensity and persistent dyspepsia. Radiological evidence did not reveal dilated gut loops or air fluid levels. There was no palpable abdominal lump. Her TLC and LFT's were normal. On 3rd day of admission she developed severe pain in right paraumbilical region with marked tenderness and guarding. TLC was raised. Repeat ultrasound abdomen revealed inflammatory focal bowel thickening in ileocaecal area. A provisional diagnosis of acute appendicitis was made and surgery was undertaken.

Case 4: A 18 years old boy got severe abdominal colicky pain with history of blunt trauma 2 months back, managed conservatively in our ward, x-rays also showed multiple air fluid levels, his exploratory laparotomy was done, found to have ileo ileal intussusception, resection and anastomosis were done.

Case 5: A 20 years old boy with history of recurrent upper respiratory tract infection from last one year, developed sudden crampy abdominal pain in the abdomen, his gut loops were distended on x ray, exploration was done revealed to have mesenteric lymphadenitis, with ileo ileal intussusception, gut resection was done. Biopsy of lymph node revealed to be a case of non specific lymphadenitis.

RESULTS

All cases were operated as a case of intestinal obstruction, revealed to be intussusception as per operative findings. The four patients were male while only one case was of a female, comparing with actual predisposition which is more common in female as compare to male.

Patients mean age was 46.5; the youngest was of 18 years and the oldest being 70 years.

Out of 5, one patient presented with acute intestinal obstruction while 4 patients presented with chronic intestinal obstruction.

The most common feature of all was abdominal pain which was severe in 2 cases and mild to moderate in rest of 3 cases, associated with symptom free interval. Other symptoms were nausea, vomiting, flatulence dyspepsia, loss of weight, pallor, dehydration and passage of blood per rectum.

On examination, out of 5, case 3 and case 4 were having a palpable abdominal mass and presented as mass right iliac fossa initially thought to be appendicular mass.

Abdominal radiography performed in all patients which showed multiple air fluid levels and distended gut loops but did not help us in diagnosing the intussusception.

CT scan was not done as our patients belongs to poor socio economic status, moreover

our entire efforts were to give immediate relief to the patients without wasting any time. So decisions of explorations are usually taken on their clinical features, examination findings, plain x-ray abdomen and abdominal ultrasonography.



Figure No.1: Multiple Air Fluid Levels

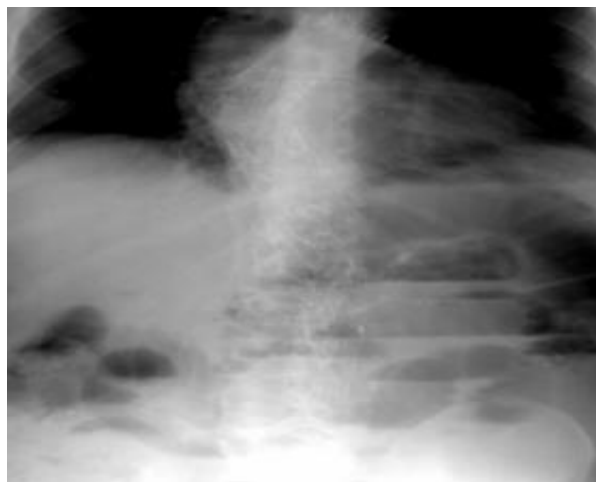


Figure No.2: Air Fluid Levels



Figure No.3: Intussusceptum with Intussuscipiens, finger, entering into a lead point and gangrenous loop of intestine being pulled out through lead point. (Resection Done after Reduction)



Figure No.4: Lead point

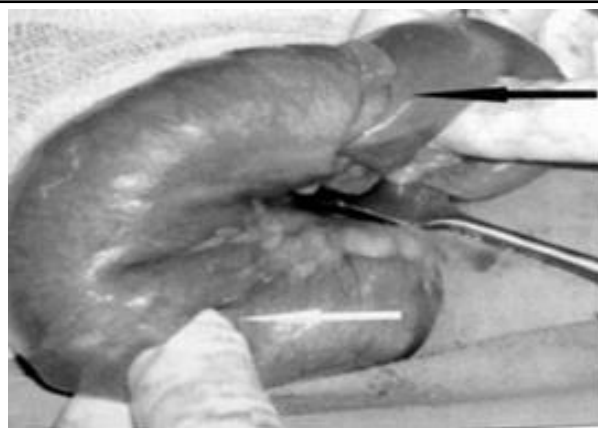


Figure No.5: Ileo-Ileal Intussusception

Table: 1

	Case 1	Case 2	Case 3	Case 4	Case 5	Inference
Age	65 yr	70 yr	60 yr	18yr	20yr	Mean 46.5
Sex	Male	Male	Female	Male	Male	M:F 4:1
Clinical Features						
Pain	Mild +	Moderate ++	Moderate ++	Severe +++	Severe +++	73.5%
Distension	+	++	++	+++	+++	73.5%
Vomiting	++	++	+/-	+++	+++	73.5%
Bleeding P/R	+++	-	-	-	+/-	26.6%
Constipation	+/-	+/-	+/-	+++	+++	60%
Signs						
Tenderness	+	+	++	+++	+++	66.6%
Palpable Mass	-	-	++	+/-	+/-	26.6%

Table No. 2: Diagnostic tools

	Case 1	Case 2	Case 3	Case 4	Case 5
Radiological findings	Dilated loops, Air fluid levels	Dilated loops, Air fluid levels	No findings	Air fluid levels	Air fluid levels
Abdominal USG	Thickening of terminal ileum	Distended gut loops	Mass RIF	Mass RIF	Gut wall thickening
Pre OP Diagnosis	Intestinal Obstruction	Intestinal Obstruction	Intestinal Obstruction	Intestinal Obstruction	Intestinal Obstruction
Per OP findings	Intussusception (Terminal Ileum)	Intussusception (ileo ileal)	Intussusception (ileo ileal)	Intussusception (ileo ileal)	Intussusception (ileo ileal)
Procedure	Right Hemicolectomy	Resection Double Barrel	Resection End to End Anastomosis	Resection End to End Anastomosis	Resection End to End Anastomosis
Discharge	Within 2 weeks	3 weeks	2 weeks	3 weeks	2 weeks
Mortality	Nil	Nil	Nil	Nil	Nil

In all patients exploratory laparotomy was done. Right hemicolectomy was performed in case 1 where terminal ileum had the intussusception, in rest of the case 3, 4, 5, enblock resection of the involved segment and end to end anastomosis were performed. Enblock resections was carried out in all cases except case number 2 where gangrenous loop of the ileum was pulled, resected,

since the gut loops were quite odematous and friable so double barrel ileostomy was performed.

DISCUSSION

The governmental institution record showed from 2006 to 2013 only 5 cases were found in 3.5 million population.

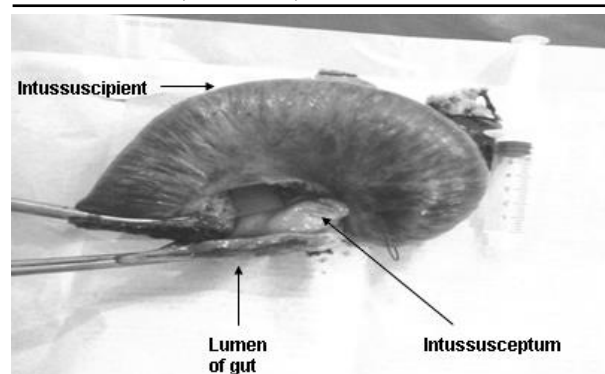


Figure No.6: En bloc resection of Intussusceptum with Intussusciens

Abdominal pain comprise about 5 to 10 % of emergency department visit with wide range of gastrointestinal, gynaecological, genitourinary and cardiopulmonary causes.

It occurs when one segment of intestine (intussusceptum) telescope into the lumen of an adjacent segment of gastrointestinal tract (intussusciens)

Adult intussusception represents only 5% of all the intussusceptions.³ It is expected to be found in 1/30000 hospital admission and 1/1300 of all abdominal operations,⁷ and 1/30 -1/100 of all cases operated for intestinal obstruction⁷ and one case of adult intussusception for every 20 childhood cases.^{9, 10}

The mean age is 46.5 year male to female ratio is 4:1 as compared to previous studies where male and female ratio is 1.1-3.¹¹ (3.6:1 children)¹²

The adult intussusception can be either acute or chronic and abdominal pain is the commonest complains 71-100% followed by nausea, vomiting in 40-60% of cases.

Bleeding per rectum was seen in the 4-33% of all the cases¹³ while classical triad of symptoms including abdominal pain, mass and passage of currant jelly like stool seen in the paediatric intussusception are rarely seen in adult.^{7, 13} But few reports suggest that cases of triad of cramps, vomiting and rectal bleeding often present.³ In our case only one patient present with bleeding per rectum. (case1)

Furthermore abdominal mass are palpable in less than 10% of patients.⁷

The diagnostic tools like abdominal ultrasound, barium enema and small bowel follow through are not much specific test for the diagnosis of such problems as they lack the sensitivity and specificity.^{14, 15, 16}

Our complete reliance in all these patients was plain X-ray abdomen and abdominal ultrasonography because we diagnosed all patients as cases of intestinal obstruction.

Ultrasound shows target and doughnut sign on transverse view and pseudo kidney sign on longitudinal view in the presence of air in the bowel.

While abdominal CT is the most useful diagnostic tool not only in the determining the intussusception with a diagnostic yield of about 78 % but also help in diagnosing the underlying cause.¹⁶

Whereas the classical CT/MRI finding is the target lesion formed by bowel within bowel, a double ring or a coiled spring appearance. Our patient's CT scan revealed thickening of small gut at terminal ileum.

Treatment is almost always surgical in adults when compared to children.^{3, 7, 17, 18, 19}

Great debate occurs in adults for en block conventional resection of the mass, anastomosis and others to do reduction to preserve bowel length and also to avoid injury to superior mesenteric vessels,²⁰ thought to increase the likelihood of bowel injury or ischemia. In addition manipulation may lead to dissemination or perforation of malignancy.

Our experience of surgical resection was not good with the patient where we did reduction up to 2 feet followed by resection with double barrel ileostomy. Our patient developed marginal necrosis of the ileostomy and later on revision was to be performed. While in rest of 3 cases en block resection was carried out and anastomosis was done with healthy parts of intestine.

Surgical resection without reduction is generally advocated as the best treatment for adult intussusception.^{2, 4}

Laparoscopy has also been used in the treatment of intussusception.^{21, 22} Laparoscopy can be performed in all cases of intussusception, confirmation of radiological reduction and detection of lead point has all been reported.

Laparoscopy is associated with faster recovery times, decrease length of stay decrease time to full feeds and lesser requirement of pain medication. Since our object was to give immediate relief to patients so laparoscopic intervention was not utilized.

CONCLUSION

Adult intussusception is a rare entity difficult to diagnose which is always made on exploratory laparotomy, the Intussusception in adult usually has a causative pathological lead point with non specific variable clinical presentation and diagnostic tools like Abdominal USG, x-rays, and CT scan are often not so much helpful.

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Address for Corresponding Author:**Dr. Sajid Hussain.**

Senior Consultant Surgeon, Department of Surgery,
Allama Iqbal Memorial Hospital/Khawaja Muhammad
Safdar Medical College, Sialkot.

Tel# 00923006108086

E-mail: surgsajid@gmail.com,

dranilafarooq@yahoo.com