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Feeding Jejunostomy - A Rare Cause of Jejuno-jejunal Intussusception.

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Abstract: *Jejuno-jejunal intussusception is a rare complication of feeding jejunostomy. We are reporting a case of 55-year-old woman who presented with loose stools, vomiting and upper abdominal pain one month after a total gastrectomy and Witzel's feeding jejunostomy (FJ) for gastric malignancy. Ultrasonogram of abdomen on admission was normal. A gastrograffin study was done 2 days later since the patient did not respond to conservative management. It showed features suggestive of jejuno-jejunal intussusception. Computed tomography scan of abdomen confirmed the presence of small bowel intussusception. Emergency laparotomy revealed Jejuno-jejunal intussusception with the FJ tube as the lead point. Since complete reduction was not possible, resection of the intussuscepted segment of jejunum including the feeding jejunostomy entry site was performed. Intussusception should be considered in patients with abdominal pain and vomiting following FJ as an adjunct to any procedure.*

Keywords: *jejunostomy, intussusception, resection.*

I. Introduction

Intussusception, the invagination of a segment of bowel into another is rare in adults. It accounts for <1% of all cases of small bowel obstruction and 5% of all cases of intussusceptions [1]. The jejuno-jejunal intussusception is a rare complication of feeding jejunostomy tube placement. An early recognition and diagnosis using radiological expertise and a timely surgical intervention would help in achieving better outcome.

II. Case Report

A fifty five-year-old woman who had undergone total gastrectomy for a linitis plastica type of gastric malignancy and a Witzel's feeding jejunostomy was brought to the hospital one month later with loose stools, vomiting and upper abdominal pain. On clinical examination her vitals were stable and abdomen was soft with mild tenderness around the umbilicus. Routine investigations like complete blood count and renal function test were within normal limits except hyponatraemia and hypochloraemia. Plain X- ray abdomen showed the feeding tube and few air filled bowel loops. Ultrasound scan of abdomen done on admission was normal. A gastrograffin study was done two days later since the patient did not respond to conservative management in the form of nil per oral, continuous Ryle's tube aspiration and supportive intravenous alimentation. It showed non-progression of contrast with complete obstruction and features suggestive of jejuno-jejunal intussusception (Fig. 1). Computed Tomography scan of abdomen confirmed the presence of jejuno-jejunal intussusception. Patient underwent emergency laparotomy which revealed a long segment, approximately 25cm, of jejunum intussuscepting into the distal segment (Fig. 2). Reduction of the invaginated bowel was done as it appeared pink and viable. The distal few centimeter of the intussusceptum was found adherent to the intussuscepiens by fibrosis (Fig. 3). Resection of the irreducible segment of jejunum, including the FJ site and primary anastomosis was done with an intention to avoid recurrence. Post operative period was uneventful, except for a small wound dehiscence which was managed by tension suturing. Patient was tolerating oral feeds and got discharged after two weeks.

III. Discussion

Intussusception, which is defined as the telescoping or invagination of a proximal portion of intestine (intussusceptum) into a more distal portion (intussuscipiens), is one of the most common causes of bowel obstruction in infants and toddlers, with an incidence of 5% in adults [1]. The incidence of small bowel obstruction as a result of intussusception is <1% in adults [1]. Agha F P classifies intussusception into four groups viz. tumor related, post operative, idiopathic and miscellaneous [2]. Among the post operative causes, feeding jejunostomy induced jejuno-jejunal intussusception accounts for 1% incidence [3,4]. Feeding jejunostomy (FJ) is associated with many complications. Commonly, (a) mechanical due to tube displacement, obstruction or migration, (b) Infectious [5] and (c) metabolic abnormalities like hyperglycaemia, hypokalaemia, hypophosphataemia and hypomagnesaemia [1].

Jejunojejunal intussusception in patients with feeding jejunostomy usually presents with nausea, vomiting, diarrhea and abdominal distension [6]. In some patients, the presentation may be delayed because it may not interfere with tube feeding [4]. Symptoms develop once the patient is started on oral feeding, as in our patient.

The mechanism of jejuno-jejunal intussusception was thought to be due to an injecting force produced by tube feeding with pump infusion on the jejunostomy tube which acts as a stent. Most of these patients requiring FJ tubes have lean body mass with less fatty tissue inside the relatively wide abdominal cavity, which allows the small bowel loops a wide excursion precipitating intussusceptions [7]. Though the exact etiology and mechanism of jejuno-jejunal intussusception has still not been described, review of literature suggests various other mechanisms like retrograde peristalsis of jejunum during vomiting episodes, adherence of two bowel segments with either an intra-luminal polyp or extra-luminal adhesion as lead points, tube induced inflammatory reaction causing hypertrophy of the mucosa forming the lead point [8]. The later seems to be the cause in our patient (Fig. 4).

Literature evidence suggests non-operative management in most of the patients because it usually resolves spontaneously [3]. Changing the tube to standard or short tube without distal pigtail [3, 9], reduction by injection of contrast via the tube or exchange over a wire under fluoroscopic guidance has all been attempted [9].

Operative management may be required in some patients. Reduction without resection of the bowel may suffice in patients with viable bowel. Resection anastomosis may be required in patients with doubtful viability or gangrenous bowel segment or when complete reduction is not possible due to local adhesion, forming a permanent lead point, as in our case. Resection of the bowel may not be necessary to prevent recurrence [10].

IV. Conclusion

Intussusception should be considered in any patient with abdominal pain, vomiting and loose stool following FJ as an adjunct to any procedure. Clinical findings may not be adequate to diagnose this condition in all cases. Radiology plays a major role in diagnosing this condition, which needs expeditious management to prevent major resections.

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Fig. 1: Gastrograffin Study showing features suggestive of jejuno-jejunal intussusception

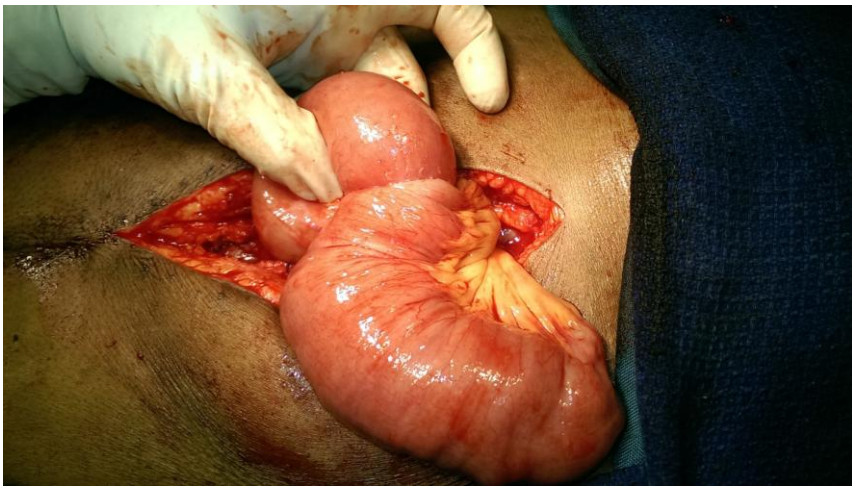

Fig. 2: Intra-operative finding - Jejunojeunal intussusception with viable bowel.

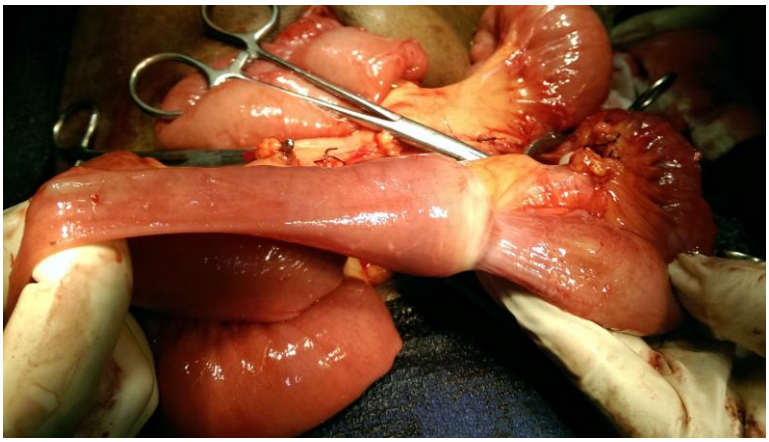

Fig. 3: The fibrous adhesion of the distal portion of the intussusception after reduction.

Fig. 4: Resected specimen showing the FJ tube and the fibrotic adhesion as lead point.