International Journal of Science and Research (IJSR)
ISSN: 2319-7064
ResearchGate Impact Factor (2018): 0.28 | SJIF (2019): 7.583

Early Small Bowel Obstruction after Lap Appendectomy: A Surgical Dilemma (A Curious Cause)

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Abstract: ***Internal herniation via mesosalpinx is one of the rare causes of intestinal obstruction. The defect could be congenital or acquired with per op acquisition of defect during laparoscopic procedure seen in few cases. This is a case report of 33 year old lady who with history of LSCS in past was operated for acute appendicitis & presented with signs of intestinal obstruction on post op day 3. The CT findings were inconclusive as to the cause of intestinal obstruction. Per op internal herniation through a defect in mesosalpinx was noted and repaired.***

Keywords: Post Operative Intestinal obstruction, Internal hernia, Mesosalpinx hernia

1. Background

One of the most commonly performed surgery is Laparoscopic appendectomy and it is often associated with various short term and long term morbidities. Post operative bowel obstruction is recognized as one of the long term effect of appendectomy. The frequency of this complication though not well known but reported risk ranges from 0.2-10.7%.[1] Intestinal obstruction is also one of the most common cause of presentation in emergency. The common causes of obstructions are post op adhesion, malignancy, incarcerated inguinal hernia, intussusception, inflammatory bowel diseases. Internal hernia is a rare cause of intestinal obstruction. Internal hernia is defined as herniation of hollowviscus into a natural or unnatural orifice inside the peritoneal cavity. Paraduadenal hernia is the commonest internal hernia.

We herein present a case involving a lady who was admitted under the diagnosis of acute appendicitis and was subsequently found to have intestinal obstruction.

2. Case Report

A 33year old woman with history of LSCS twice (2008 and 2011) presented with acute onset pain in right lower quadrant of abdomen. Pain was gradually progressive, continuous,non-radiating with no aggravating/relieving factors, was associated with multiple episodes of vomiting-non bilious, non projectile.

On examination, General condition was fair, vitalsstable. On abdominal examination soft, tenderness in periumbilical and right iliac fossa, rebound tenderness. Rovsing's sign positive, psoas sign positive,obturator sign positive, dunphy's sign positive. Bowel sound present. Rest systemic examinations were normal. On evaluation TLC-14400/cmm, with 83% neutrophils.

USG abdomen- probe tenderness RIF.No visualization of appendix.

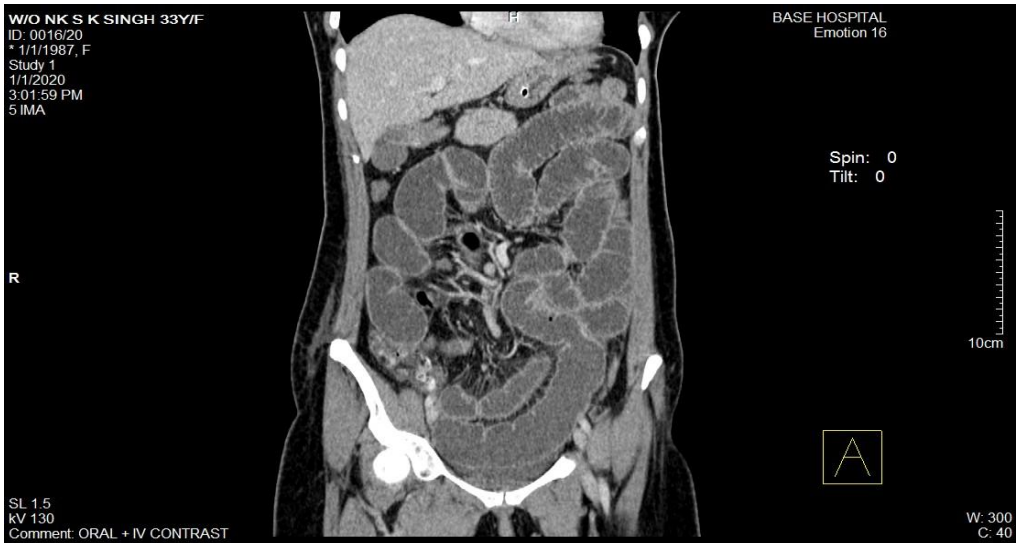
Management- Patient underwent Emergency Laparoscopic Appendectomy under GA .Per op findings- 6cm long turgid, inflamed retrocaecal appendix. The surgery was uneventful.

Post op day 3 patient developed abdominal distension, vomiting episodes, pain abdomen and obstipation. Initially she was observed by keeping her nill per orally and conservative management for intestinal obstruction.

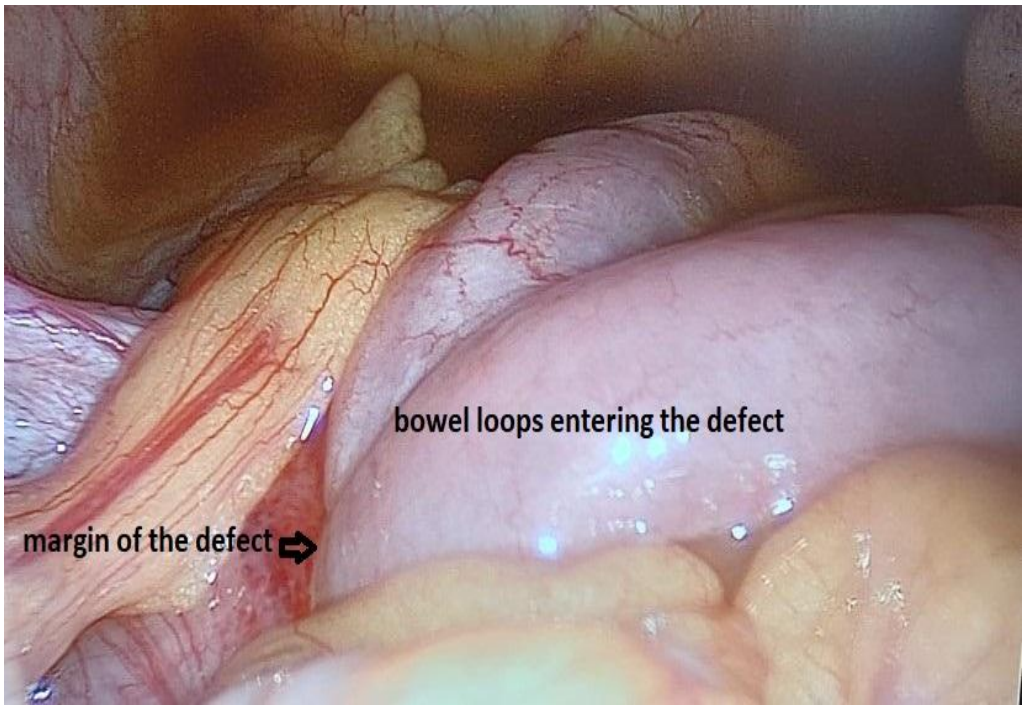
On post op day 4 she was evaluated with Xray abdomen revealing dilated bowel loops and air fluid levels. We continued with conservative treatment till day 5.

On post op day 6 she was evaluated with CECT abdomen in view of condition being not improving with conservative approach revealed multiple dilated jejunal and ileal loops were noted with max diameter 3.6 cm, transition zone with focal narrowing was noted in the distal ileum in the pelvis with associated mesenteric congestion and edema. There was collapse of rest of distal bowel loops. Free fluid was noted in pelvis.

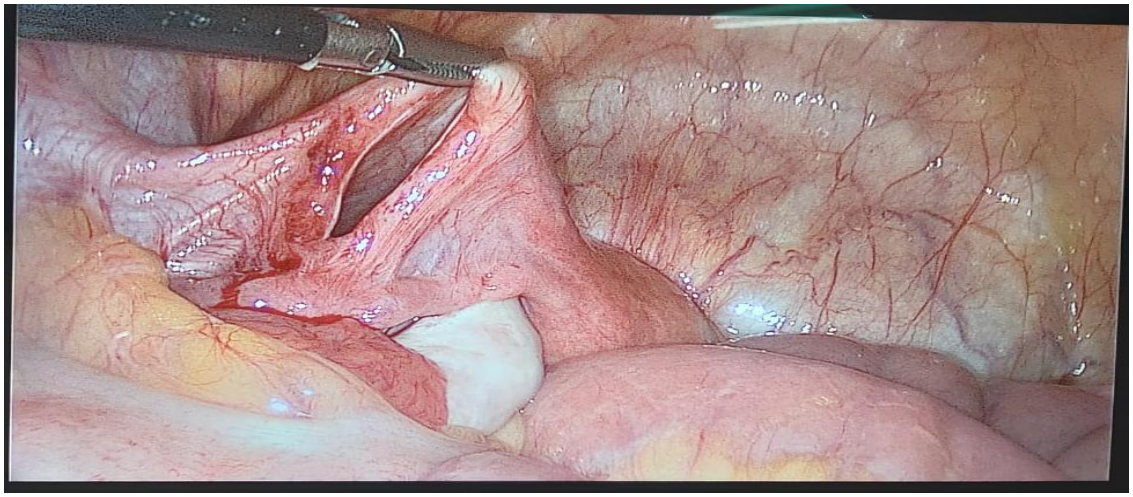
She underwent diagnostic lap and proceed under GA. Per op- 2x2 cm defect in left mesosalpix with distal ileal loop. Minimal peritoneal fluid was seen. The bowel loop was reduced and repair of the defect of left measosalpinx was done laparoscopically. Post op period was uneventful. Patient was discharged on post-op day 4 after hernia repair.



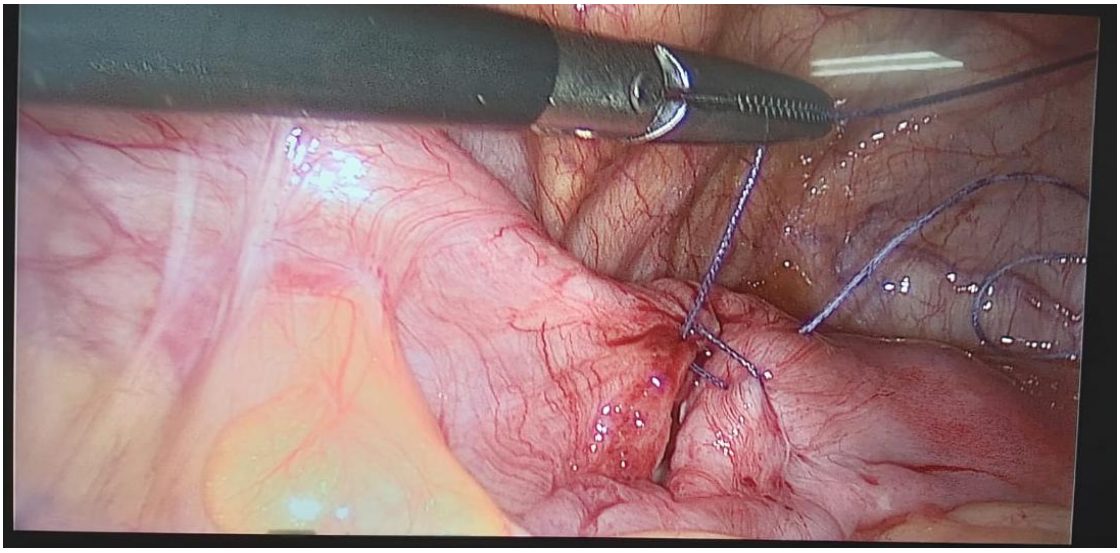
Picture 1: CECT Abdomen Suggestive of Small Bowel Obstruction



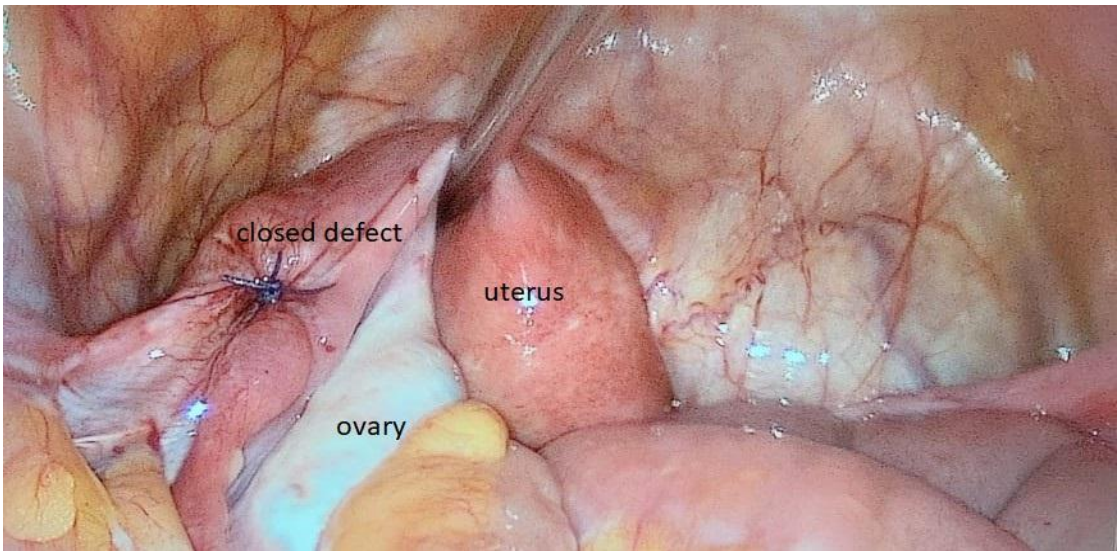
Picture 2: Laparoscopic View of Internal Hernia



Picture 2: Defect in the Mesosalpinx



Picture 4: Closure of the Defect



Picture 4: View after Closure of the Defect

3. Discussion

Diagnosis of early post operative bowel obstruction remains an enigma and management is challenging in view of masked and unclear clinical findings as well as clear-cut radiological information.Approach to intestinal obstruction including differential diagnosis and intervention depends heavily upon whether or not the patient had previous abdominal surgery as compared with patients with no history of previous surgical intervention.In the past one of the most common cause of intestinal obstruction hasbeen postoperativeadhesions. But with the emergence of laparoscopic techniques an increasing incidence of intestinal obstruction due to internal hernias is being observed. [2]

Early postoperative bowel obstruction is defined as within 6 weeks of original intervention. Etiology could be internal hernia, fascialdehiscence, uncontrolled anastomotic leak etc. [3]Post operative internal hernias manifesting after unrelated surgery is very rare condition which could be due to mesenteric defect created by trocar insertion or maneuvering of ports.[2] An internal hernia through mesosalpinx is a rare condition which is often overlooked. We discuss this rare case of intestinal obstruction and its diagnostic dilemma. We found following cases of mesosalpinx hernia upon our study of existing literature.

Author	Age	Presentation	Previous significant history
Kamata(1989)[4]	72y	Nausea, vomiting, upper abdominal pain	Not reported
Tan (2010)[5]	65y	Vomiting, abdominal pain, constipation, distension	Appendicitis
Petereit(1973)[6]	57y	Nausea, vomiting, abdominal pain	Not reported
Dunn(1926)[7]	44y	Lower abdominal pain	Grand multipara
Garcia-oria (2007)[8]	43y	Vomiting, right upper abdominal pain	Bowel surgery
Higaki T(2019)[9]	38y	Abdominal pain, Diarrhoea	Caesarean section with untreated uterine fibroids
OUR CASE	35y	Abdominal distension and pain, vomiting, obstipation	Caesarian section (old)Laparoscopicappendectomy(recent)

Our patient presented with post op intestinal obstruction. The diagnostic dilemma laid in the fact that CECT findings was unable to provide an accurate diagnosis of mesosalpinxherniation of the bowelwhic. Upon performing emergency diagnostic Lap the defect was diagnosed and eventually repaired. In all the case reports listed above the diagnosis was made through laparotomy and CT findings only revealed features synonymous with intestinal obstruction.

The cause of internal hernia in our case remains unknown. Possible cause could be creation of window during previous LSCS or duringLaparoscopic appendectomy leading to features of herniation.

4. Conclusion

Intestinal obstruction following laparoscopic appendectomy remains a rare butseriouspost-operative complication. Early diagnosis and prompt intervention is mandated to avoid bowel necrosis and ischemia. Herniation of intestinal contents through defect in mesosalpinx is a rare condition which should be kept in differential diagnosis in patients presenting with features of intestinal obstruction when CECT findings are inconclusive of the cause of obstruction especially in female patients.

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