Abdominal Botulinum Injections And Pre-operative Progressive Pneumoperitoneum

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INTRODUCTION

Ventral hernias of the abdomen are non-inguinal, non-hiatal defects in the fascia of the abdominal wall.
Surgery is the mainstay treatment option, especially in patients with symptomatic hernia and those that have a high risk of progressing to complications.

Pathophysiology:

Repeated stress on the abdominal wall

Risk Factors:
- Previous Abdominal Surgery
- Trauma/Injury, especially along weak points:
- Umbilicus
- Semilunar line,
- Ostomy sites
- Bilateral inguinal regions and Esophageal hiatus

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Increased abdominal pressure

Risk Factor:
- Smoking
- Alcohol

Risk Factors:
- Constipation
- Chronic cough
- Pregnancy

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Microscopic tears

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Weakening tissue ---------- Age

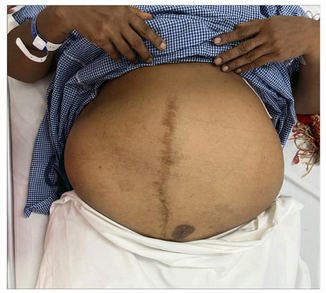

Fig. 2: Preoperative Pneumoperitoneum

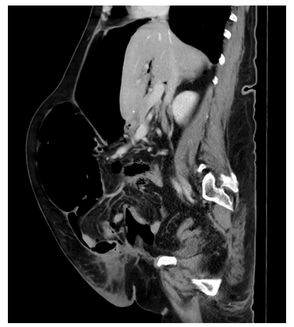

Fig. 3: Saggital CT of Preoperative Pneumoperitoneum

CASE REPORT

55-year-old lady presented with pain in the right upper abdomen for a duration of 1 week.
- Pain was insidious and progressive, was non-radiating and colicky.
- Aggravation of symptoms after consuming food and water
- Multiple episodes of bilious vomiting.

Over the past 2 days, patient complains of not passing flatus or stools.

She underwent a Lower Segment Caesarean Section in 2000.
Past history of incisional hernia repair 4 times (2001, 2003, 2004, 2015)

On initial assessment, the patient's vitals were stable.
Abdominal examination revealed a soft and distended abdomen with diffuse tenderness, particularly over the right lumbar and hypochondriac quadrants.
An 18cm vertical scar over midline was noted. Furthermore,
divarication of recti and cough impulse was present. No organomegaly detected on palpation.
Sluggish bowel sounds heard on auscultation.

Provisional and Differential Diagnoses:

Provisional Diagnosis:
Acute small intestinal obstruction
Differential Diagnosis
Adhesive Intestinal obstruction
Obstructed ventral (incisional) hernia

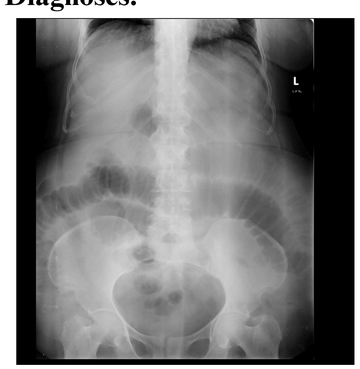

Fig. 1: Xray showing dilated bowel loops

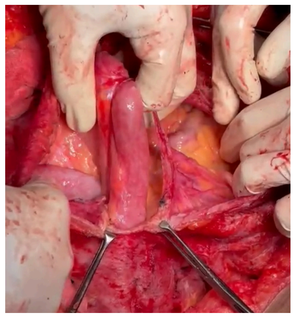

Fig. 4: Opening of hernial sac

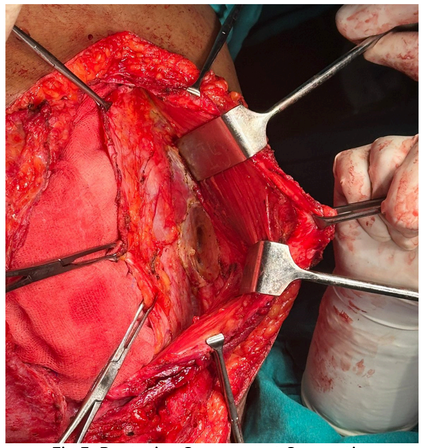

Fig 5: Posterior Component Separation

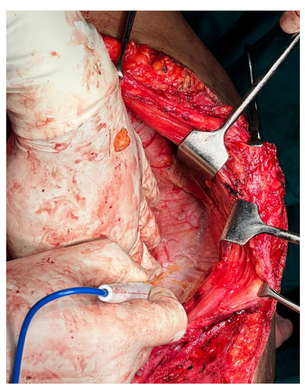

Fig. 6: Transverse Abdominis Release

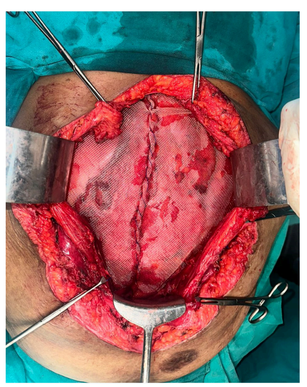

Fig. 7: Mesh Placement

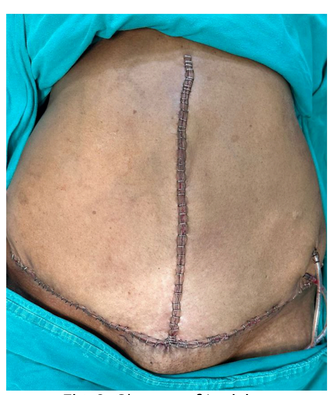

Fig. 8: Closure of Incision

MANAGEMENT

Investigations:

Ultrasonography of the abdomen and pelvis:
Anterior abdominal defect measuring 10cm along line of incision with omental fat and collapsed bowel loop with a prominent proximal bowel loop.

On CECT of abdomen and pelvis:
Dilated bowel loops
Anterior abdominal wall defect
Altered Superior Mesenteric Artery, Superior Mesenteric Vein relation with third part of duodenum not crossing to the left side, suggestive of mesenteric volvulus due to incisional hernia/midgut malrotation causing acute small bowel obstruction.

Treatment:

- Ryle's tube was inserted, and patient was kept nil per oral while vitals and Ryles tube output was monitored.
- Patient gradually improved, abdominal distension decreased and passed flatus. Patient was put on soft diet, which was well tolerated.
- Gastro-intestinal Surgery opinion was sought to treat recurrent ventral hernia. IM injection of 50 U of Botox to anterior abdominal wall was advised along with pigtail insertion in left lumbar region with serial pneumoperitoneum insufflation for 6 weeks followed by hernia repair.
- Following 6 weeks massive recurrent ventral incisional hernia comprising of complex incisional hernia repair- posterior component separation with Transversus Abdominis Release with retro-rectus mesh repair and abdominoplasty under general anaesthesia was undertaken on 09/04/2024.