DPU

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PUNE

(DEEMED UNIVERSITY)

A COMPLICATED CASE OF INCISIONAL HERNIA

Unit 1 and 8

Department of General Surgery

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Case History

- 52 year male with complaints of swelling over the left side of the abdomen since 1.5 years.
- History of penetrating stab injury over the abdomen at the same site following which he underwent exploratory laparotomy.
- Swelling was sudden in onset, 1.5 months after surgery due to lifting heavy weights and gradually progressive in size over time to the present size of 30x30cms
- Swelling aggravates on standing, straining and is relieved on supine position.
- No history of fever, nausea, vomiting, pain abdomen, bladder or bowel complaints.
- Not a known case of DM/HTN/BA/TB/Epilepsy

Case History

- Surgical History : Exploratory Laparotomy 1.5 years back following a penetrating stab injury.

- Personal History:
  - Normal Appetite
  - Mixed Diet
  - Regular bowel and bladder habits
  - Tobacco chewing and smoking since last 15 years and alcohol consumption since last 25 years

- No significant family history

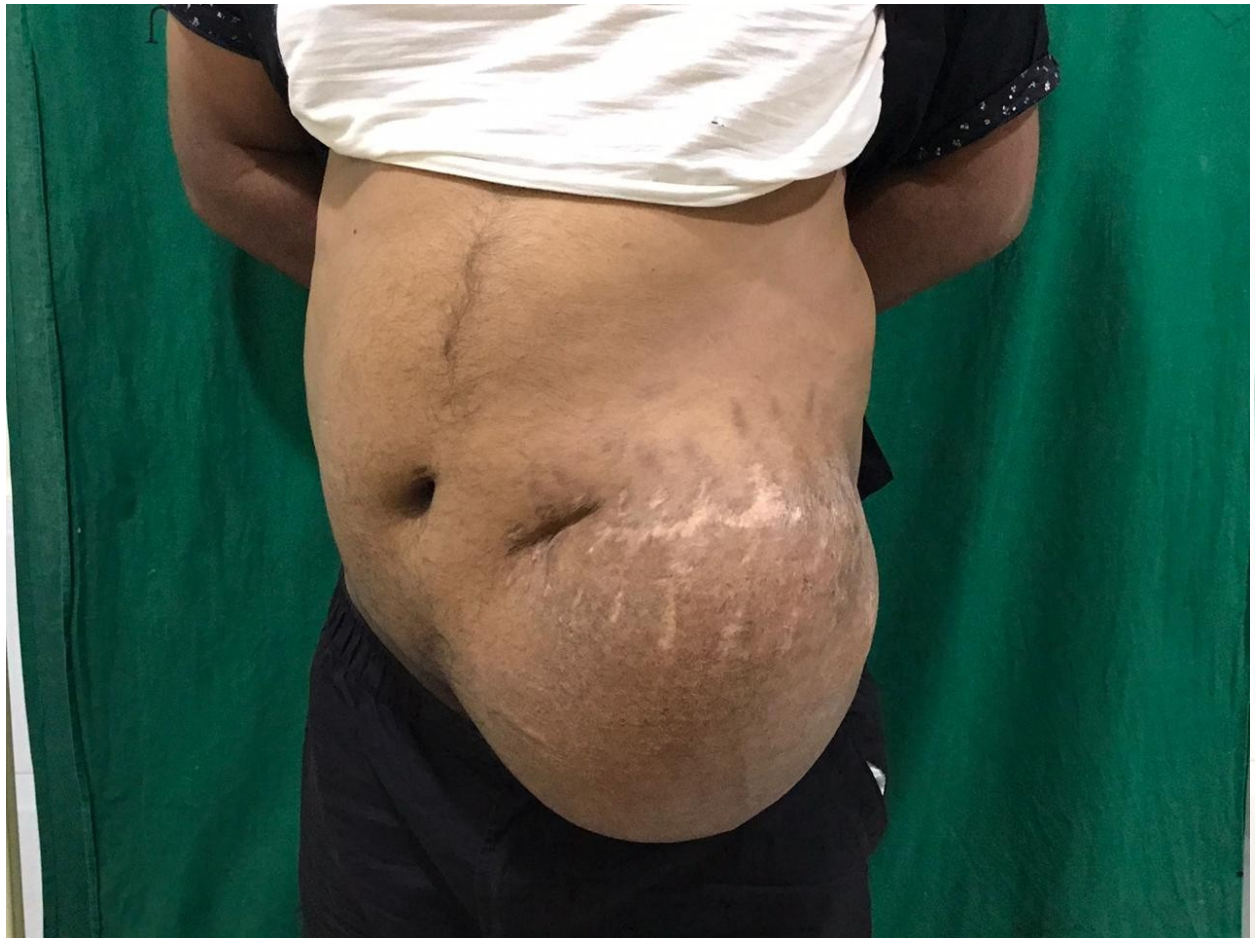
Examination

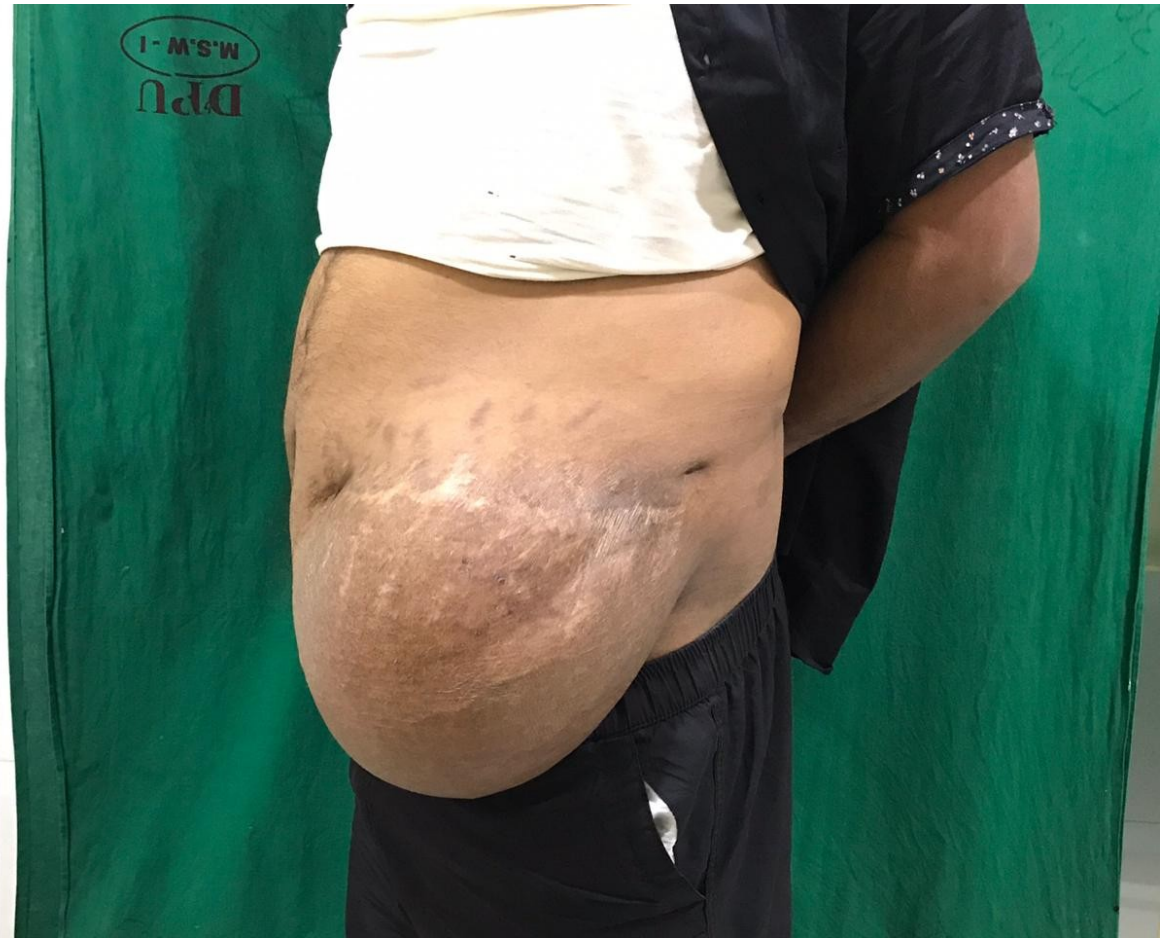
- GENERAL EXAMINATION

  - Conscious cooperative
  - Well built and nourished
  - No e/o pallor, icterus, clubbing, cyanosis, pedal edema or generalised lymphadenopathy
  - Pulse = 88 beats/min
  - BP = 130/80 mm Hg (right brachial artery, supine position)
  - Weight = 110 kg
  - Height = 1.84 m
  - BMI = 32.49 kg/m^2

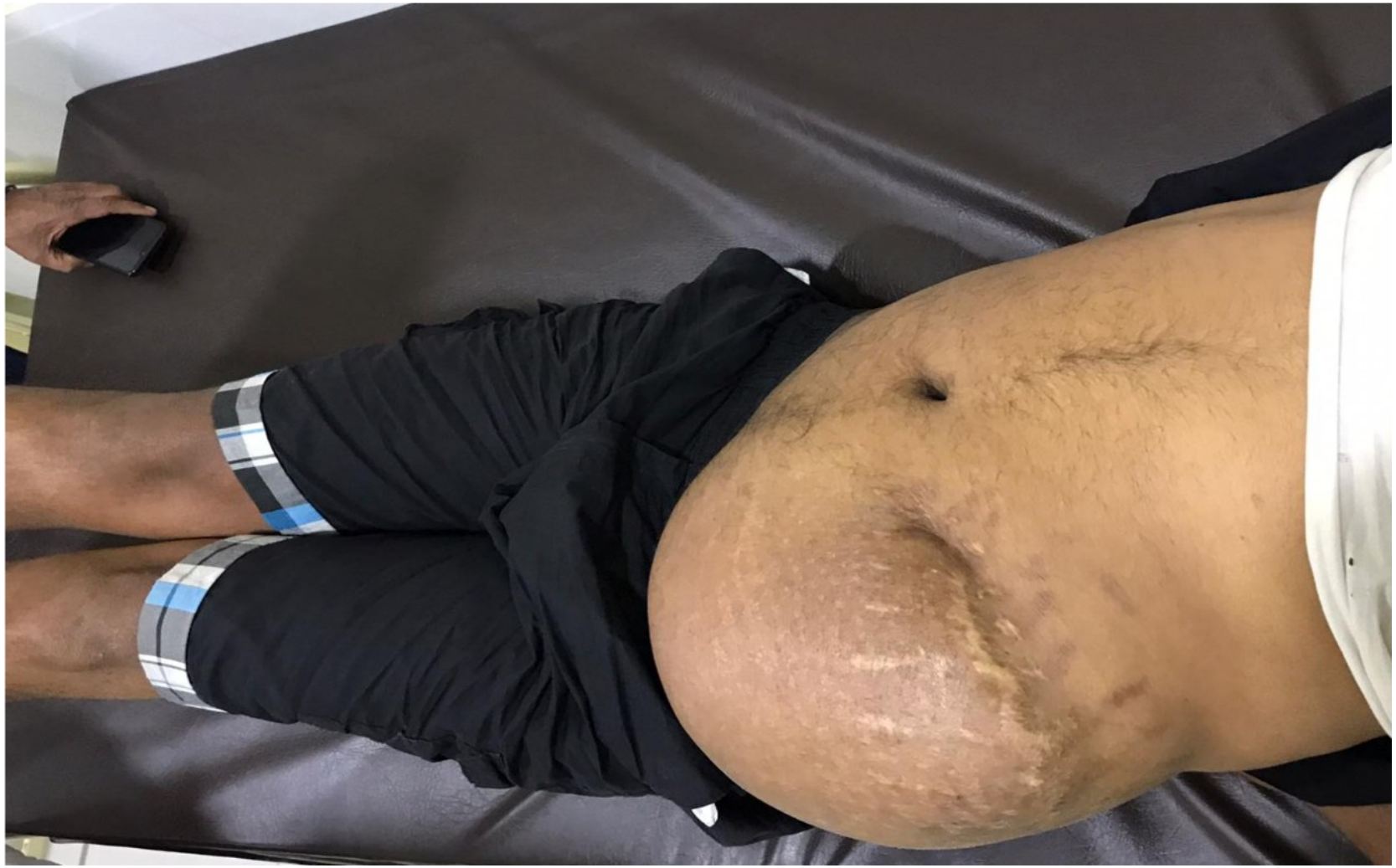
Local Examination

- INSPECTION
  - A solitary swelling of size 20x15 cms in the left lumbar region extending from the midline, reaching posteriorly and inferiorly upto the inguinal region.
  - Diffuse margins, smooth surface.
  - Scar of previous surgery present over the swelling, scar of penetrating stab injury is seen on the anterior end of the scar.
  - Skin over the swelling is thinned out
  - Loss of domain and all four quadrants do not move equally with respiration.
  - Swelling does not move with respiration.
  - Size of the swelling reduces in supine position.

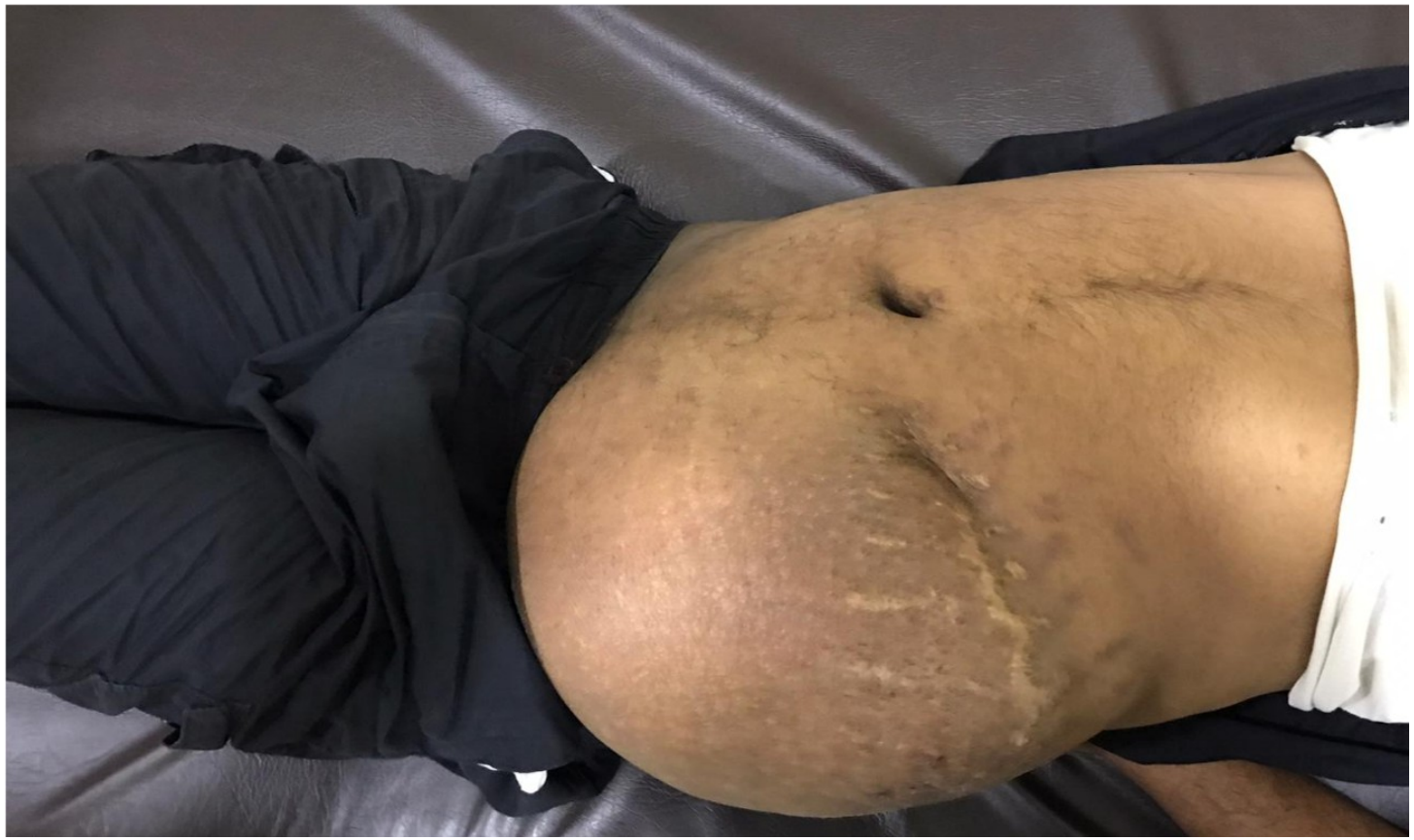




Pre operative pictures: Standing Position



Pre operative Image : Supine Position (1)



Pre operative Image : Supine Position (2)

Local Examination

- PALPATION
  - All inspectory findings confirmed.
  - A solitary swelling of size 25x20 cms in the left lumbar region with ill defined margins extending from 4cms from the midline extending posteriorly and superiorly from the trans-tubercular plane upto left inguinal crease inferiorly.
  - Swelling is partially reducible with a palpable cough impulse.
  - A defect of approx. 15x15 cms palpable.
  - Soft consistency with gurgling.

- PERCUSSION
  - Resonant over the swelling
  - Tympanic over the rest of the abdomen

- AUSCULTATION
  - Bowel sounds present in all four quadrants.
  - Bowel sounds present over the swelling.

- Other systemic examination within normal limits.

Provisional Diagnosis

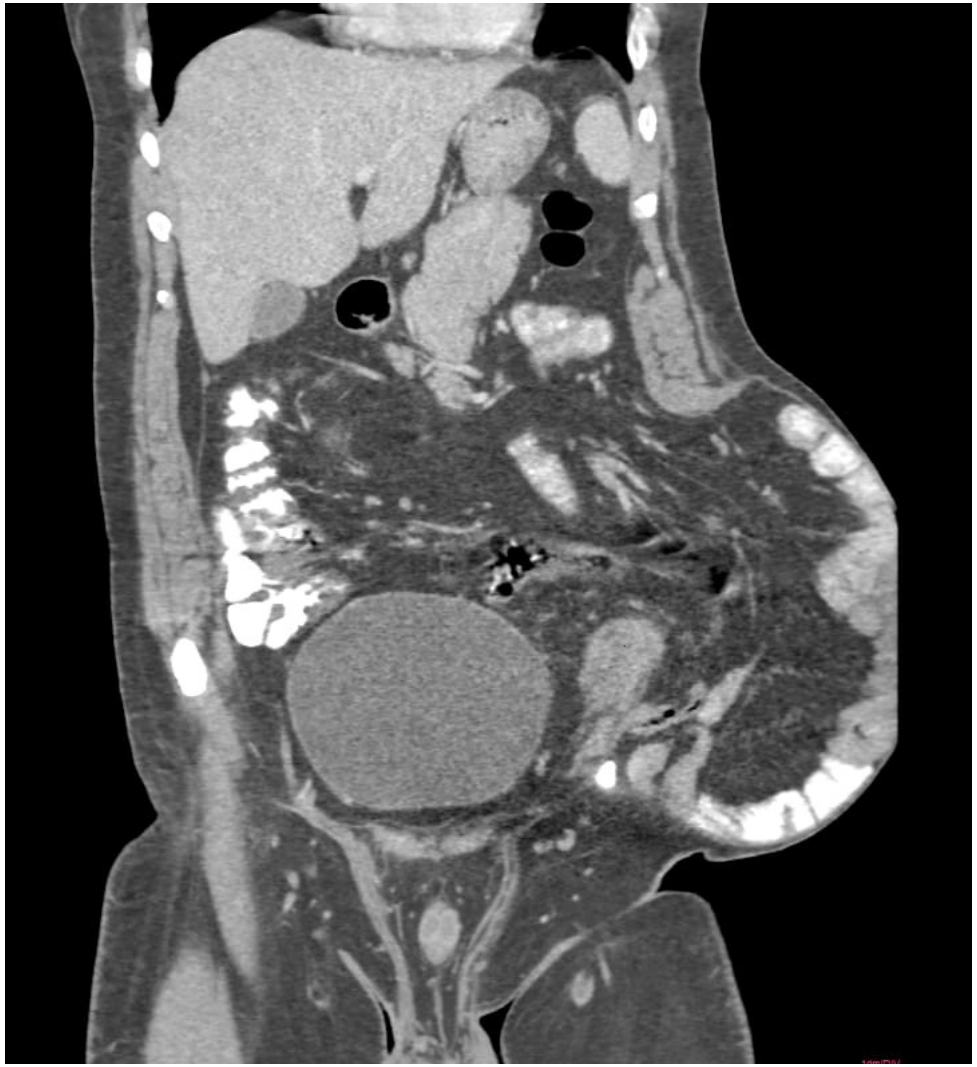
A LARGE UNCOMPLICATED INCISIONAL HERNIA WITH OMENTUM AND BOWEL AS CONTENT.

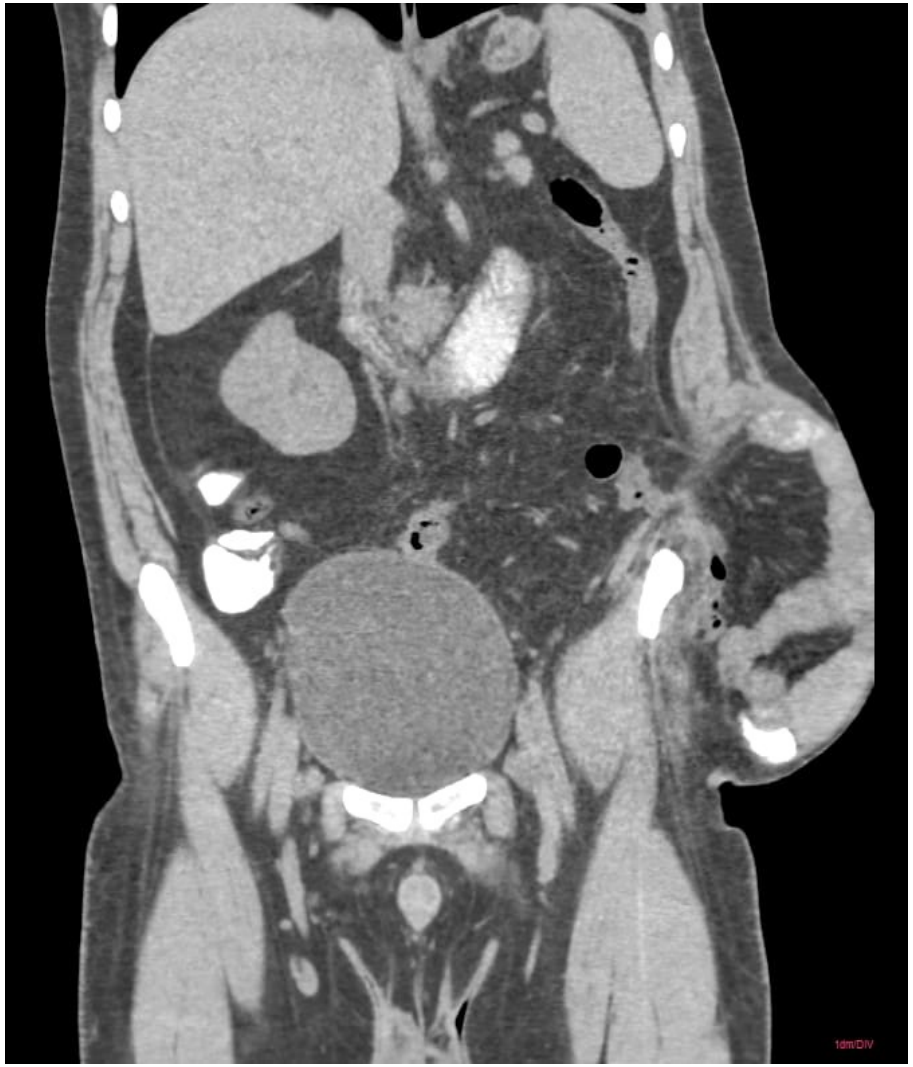
Investigations

- All Blood investigations – WNL

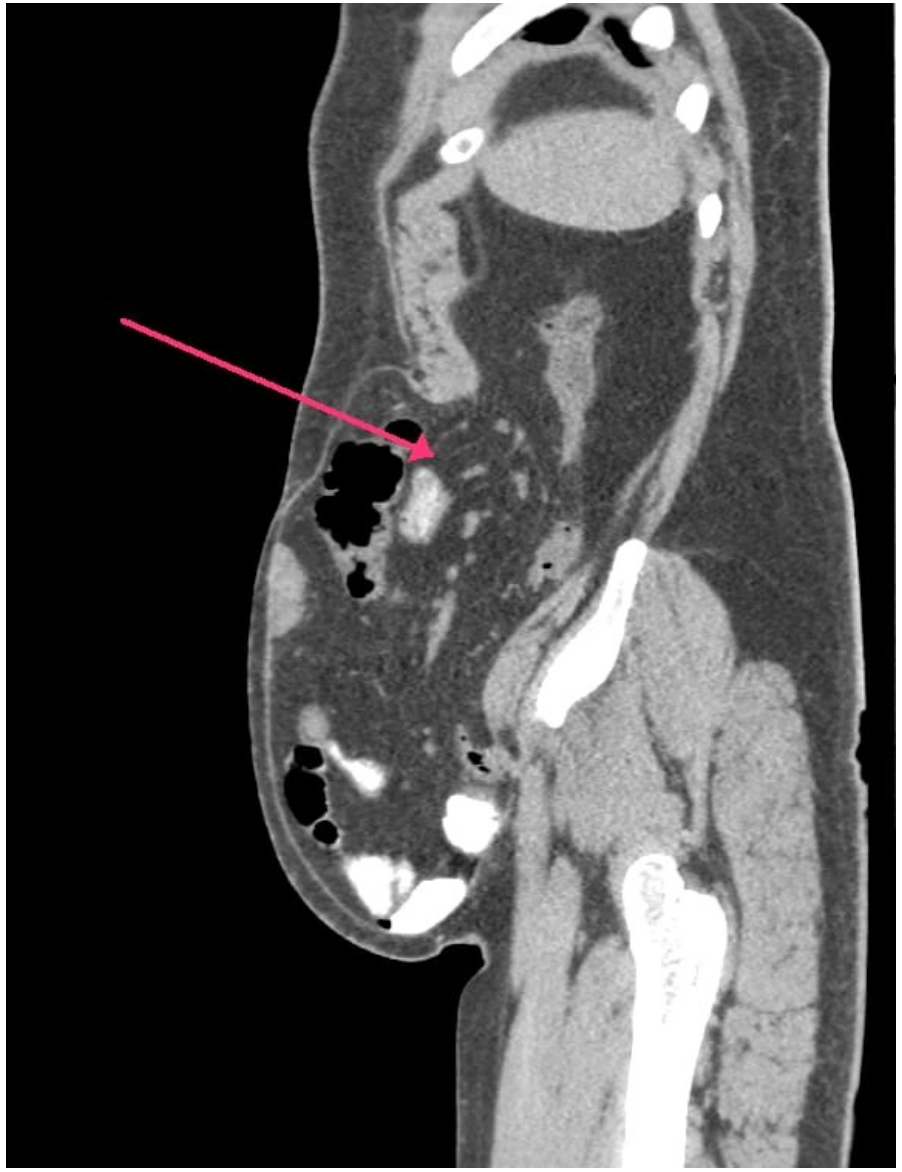
- USG Abdo-Pelvis : Large incisional hernia noted in the left lower abdomen of defect approximately 15x15 cms with bowel and omentum as content.

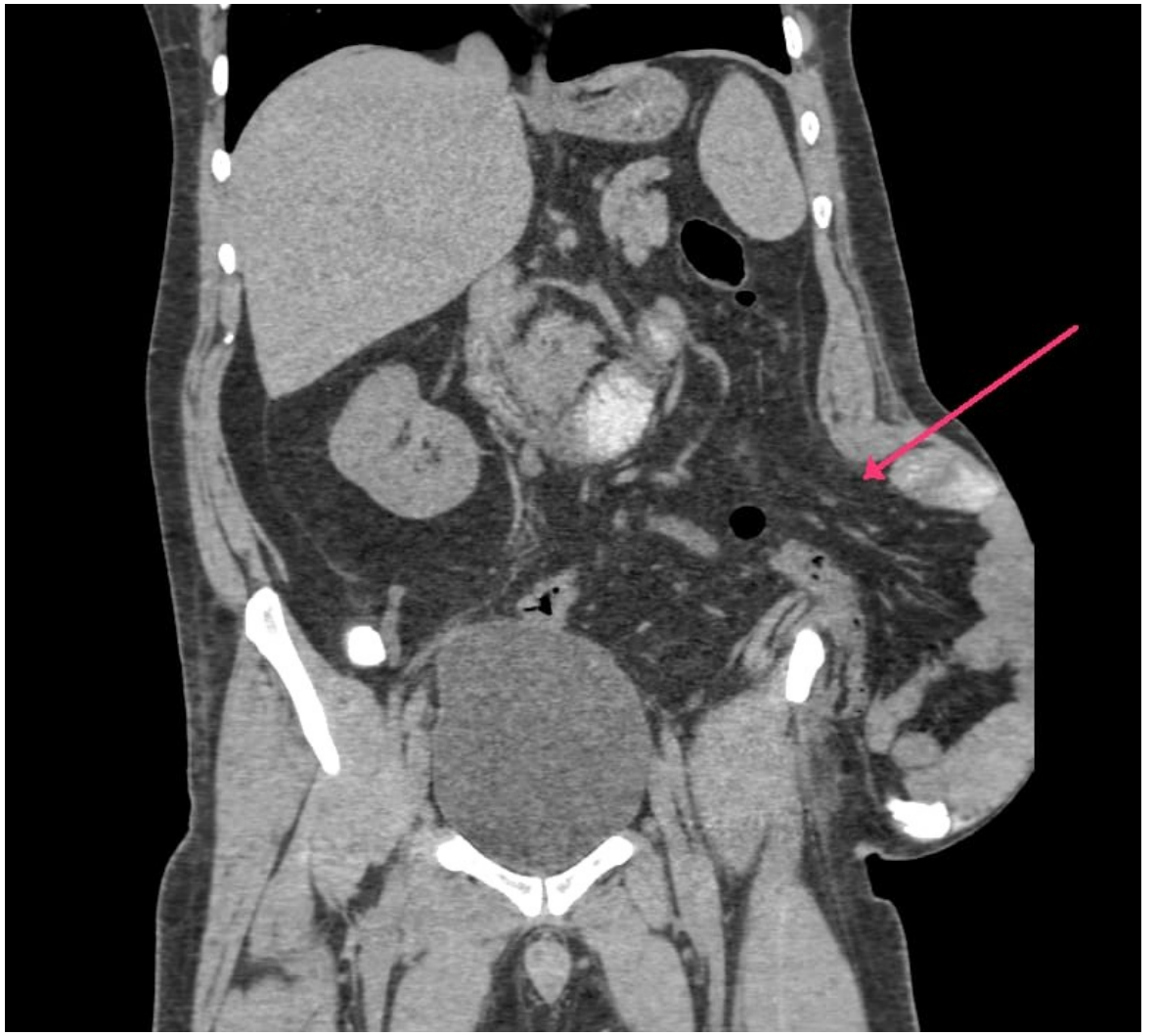
- CECT Abdo-Pelvis : A large defect of size 13x14cms (CCxT) noted in the abdominal wall muscles on left antero-lateral aspect extending from left lumbar region till left iliac fossa with herniation of descending colon, proximal sigmoid colon, small bowel loops and mesentery.

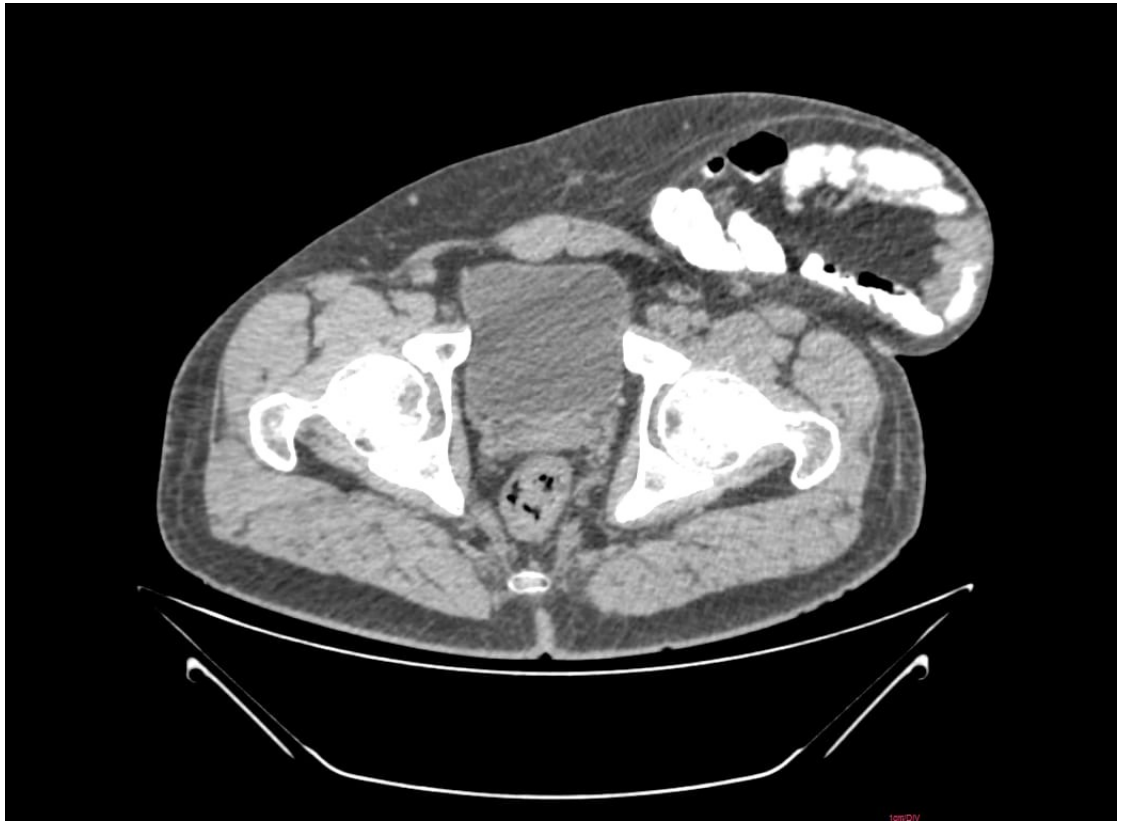


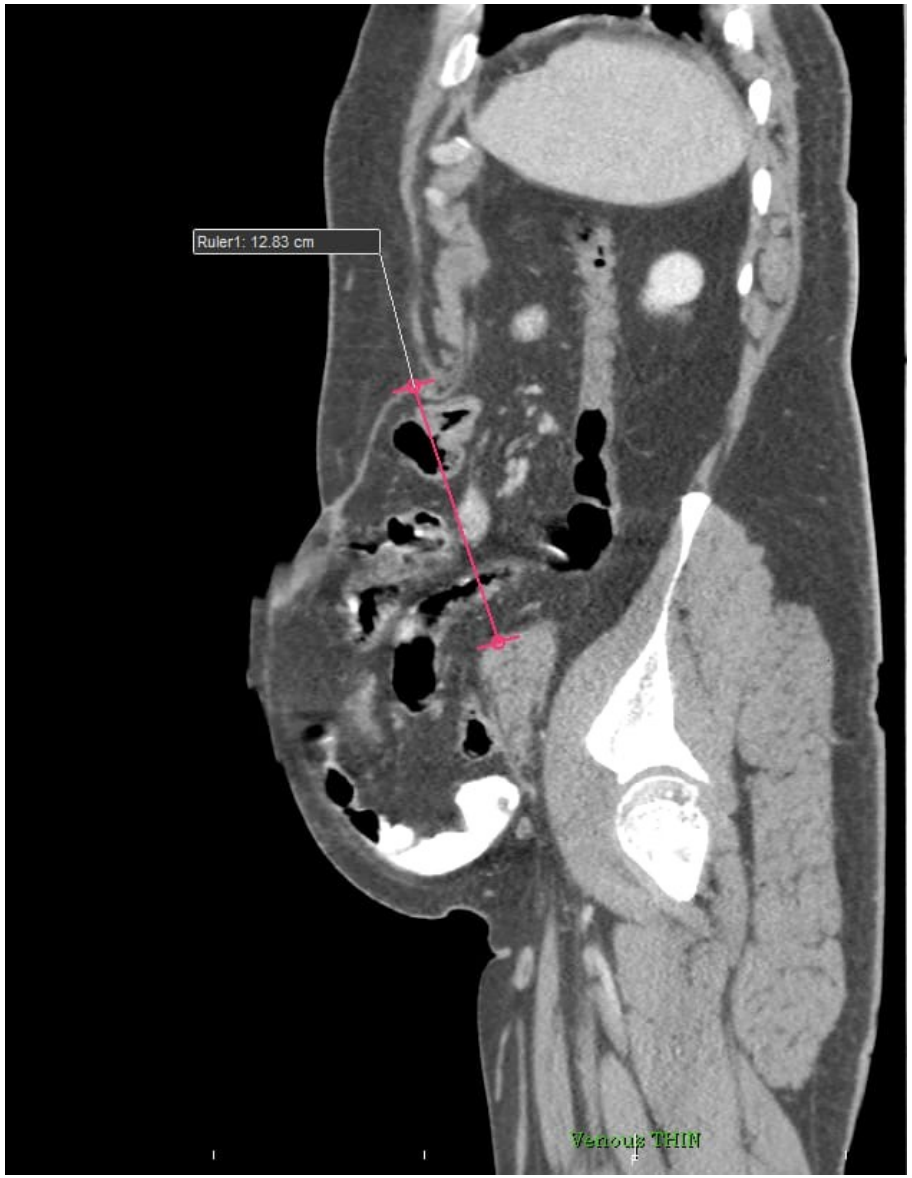


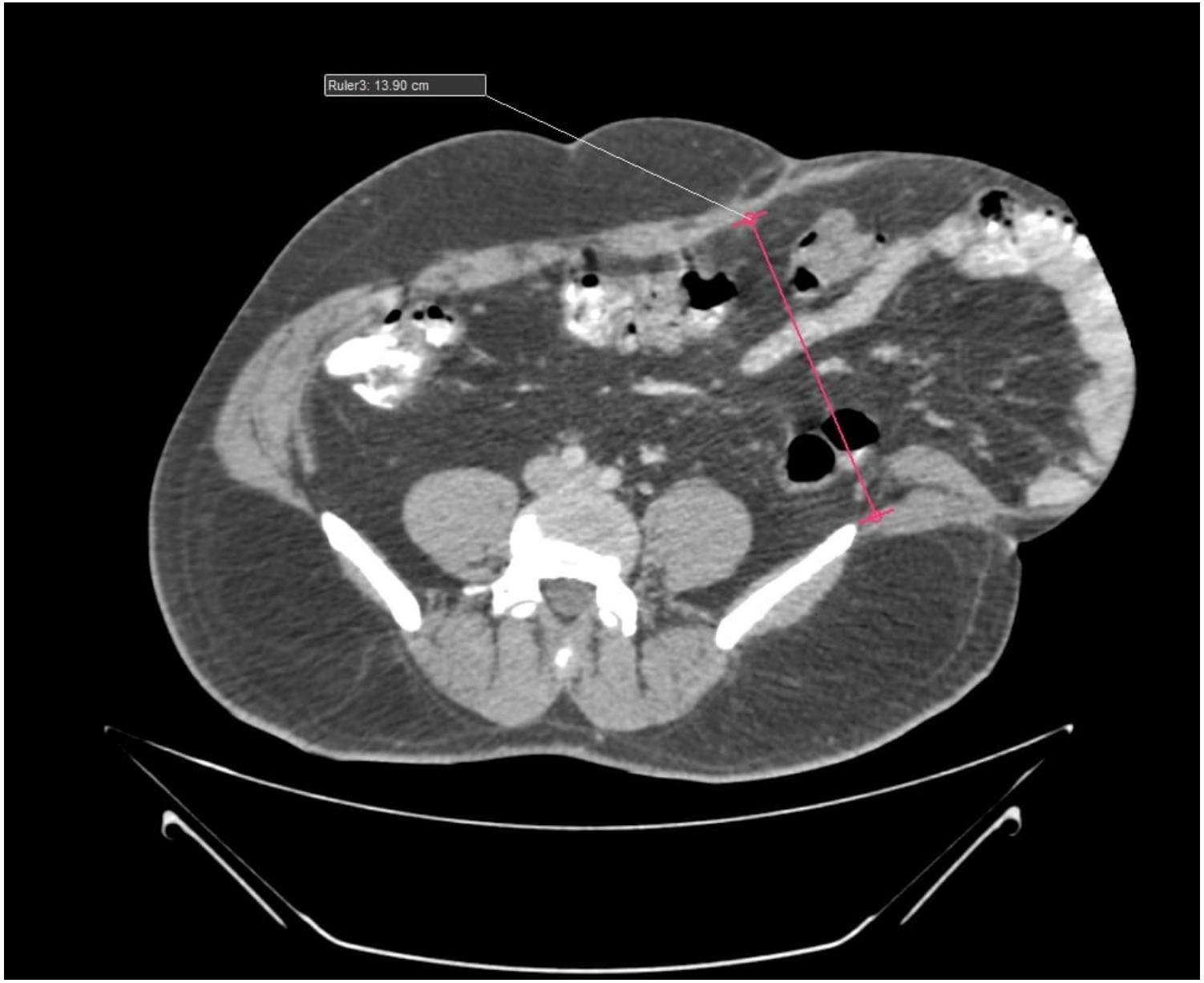
CT scan imgaes

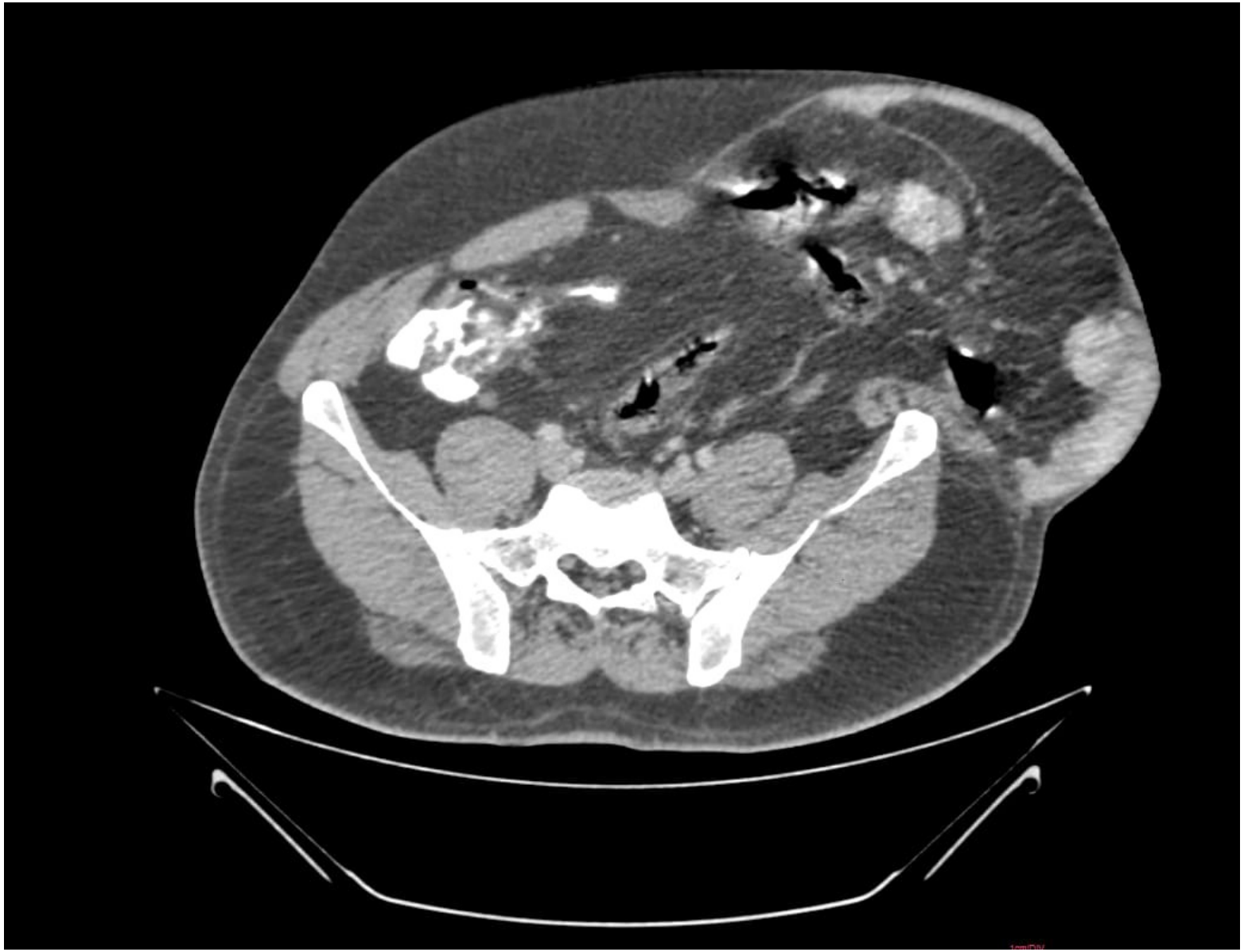







Ruler1: 12.83 cm
Venous THIN


Ruler3: 13.90 cm

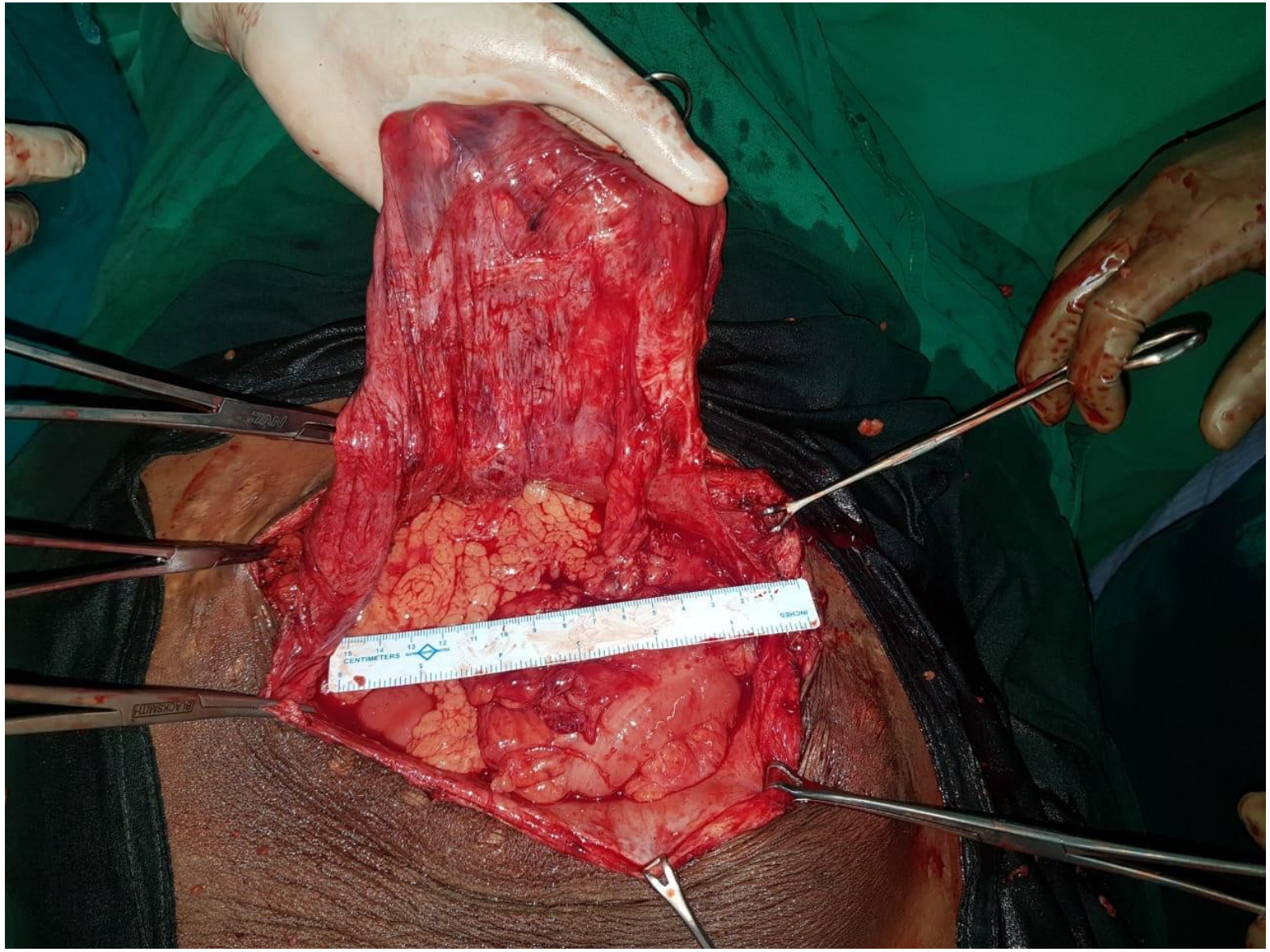


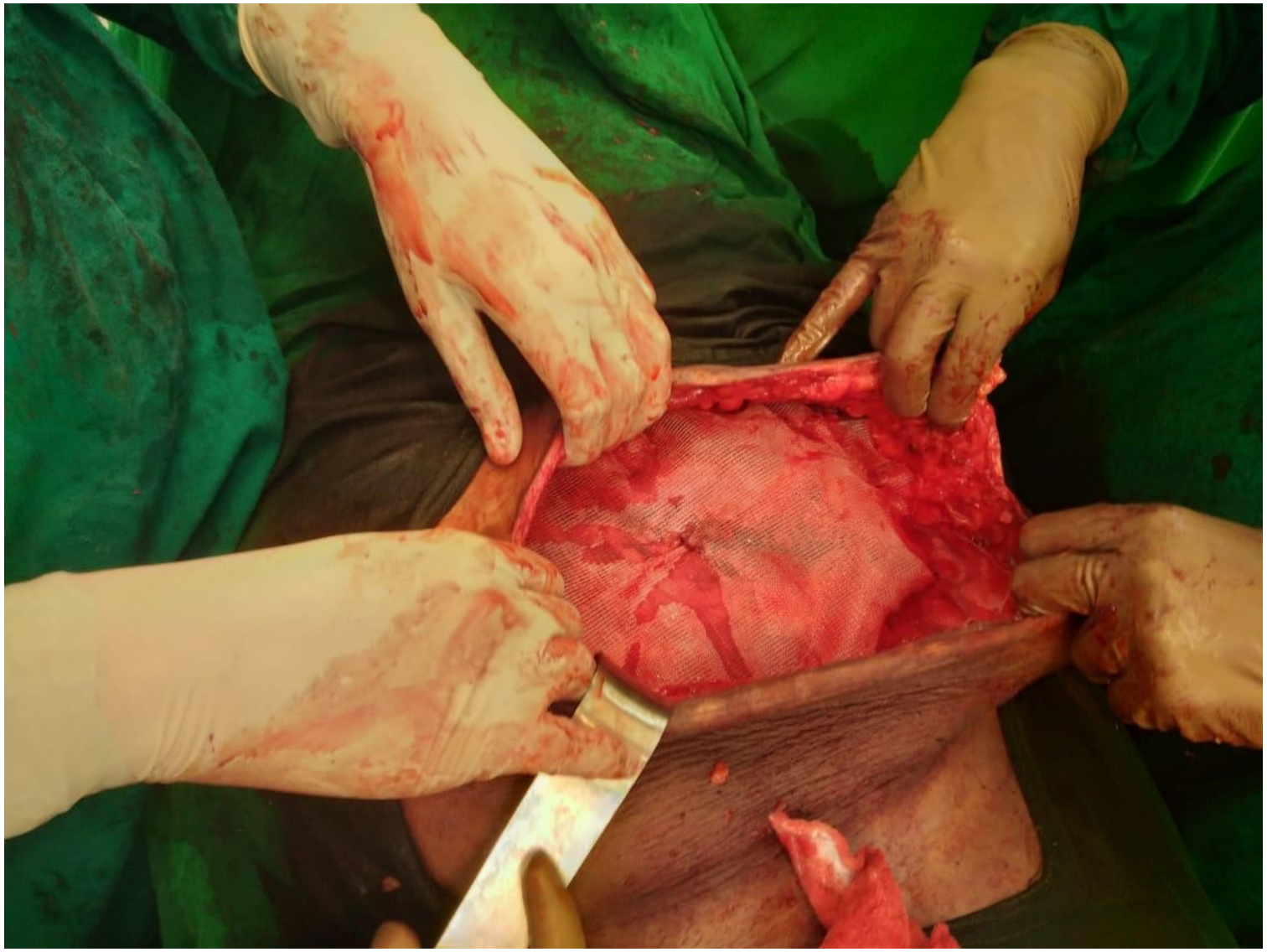
Pre-operative Preparation

- Pt was put on liquid diet for 1 week and was advised to reduce weight
- Immediate cessation of smoking and alcohol consumption was advised.
- Adequate protein supplementation was given.
- Preoperative spirometry was advised.
- Abdominal binder application after manual reduction of the swelling for 10 days preoperatively to rehabilitate the bowel within the abdomen.

Procedure

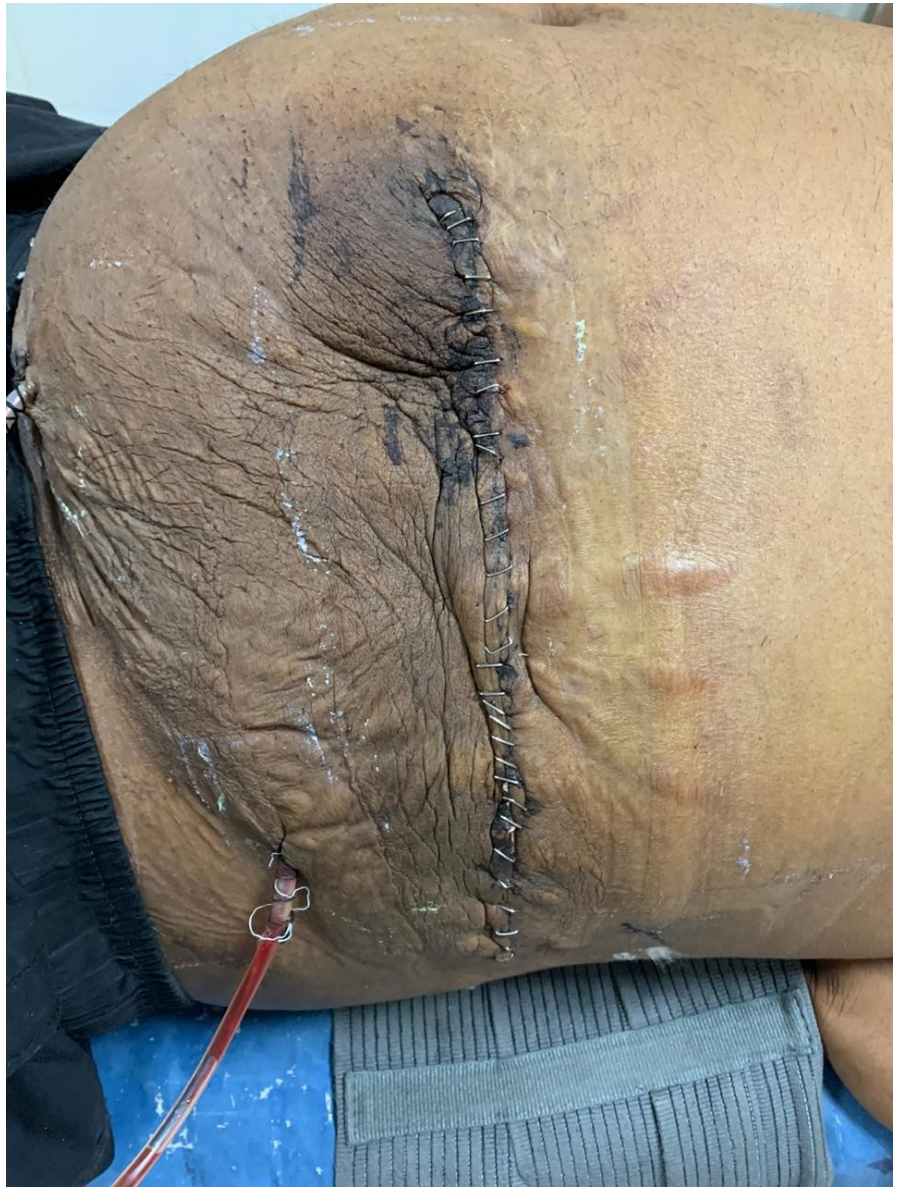
- **<u>Meshplasty with abdominoplasty under GA</u>**


CENTIMETERS
INCHES
BLACKSMITH



Post Operative

- Uneventful.
- Patient was kept NBM for 7 days followed by liquid and soft diet.
- Abdominal binder was applied.
- Patient passed normal stools.
- Pelvic drain removed on POD7 and romovac drain removed on POD10.
- Skin staples removed on POD10.
- The patient was discharged and is now on follow up.



Complications

- The incidence of Intraabdominal Hypertension (IAH) and Abdominal Compartment Syndrome (ACS) is underestimated within the surgery of large size parietal-abdominal defects, with the maximum transverse diameter above 10 cm.
- Intraabdominal hypertension has a prevalence of at least 50% among critical patients and was identified as an independent life-threatening risk factor,
- These consequences may be abdominal compartment syndrome, followed by multiple organ dysfunction and even patient death. The paper intends to highlight the importance of the early recognition of this pathology, as a key factor in the correct management of these complications.

Discussion

- Incisional hernia is a common sequel of surgical interventions with an incidence varying between 2% and 20% [1-6]
- Incisional hernias occur as a result of excessive tension and inadequate healing of a previous incision.
- These hernias enlarge over time, leading to pain, loss of domain bowel obstruction, incarceration, and strangulation.

Discussion

Patient Factors:

- Age
- Malnutrition
- Diabetes
- High BMI
- Smoking
- Ascites
- Pregnancy
- Chronic pulmonary disease
- Immunosuppression

Peri-operative Factors:

- Emergency surgery
- Type of surgery
- Surgical site infection
- Drain tubes/sites

Discussion

- The incidence of Intraabdominal Hypertension (IAH) and Abdominal Compartment Syndrome (ACS) is underestimated within the surgery of large size parietal-abdominal defects, with the maximum transverse diameter above 10 cm
- The syndrome is defined by an increase of the intraabdominal pressure over 25 mm Hg (or even over 30 mm Hg), accompanied by the impairment of different organs and systems functions.
- Once the intraabdominal pressure increases in association to the dysfunctions mentioned above, the surgical decompression has maximum emergency indication.
- The surgery in early stages enables a more rapid recovery, preventing the development of irreversible lesions.

Discussion

- In our case abdominal compartment syndrome was a probable complication which was avoided by pre-operative conditioning of the bowel by applying abdominal binder and ample weight reduction by strict diet.

- Surgically, a tension free repair was performed and post operative care and delayed and gradual start of diet played a major role.

Take home message

- Proper preoperative conditioning and appropriate surgical plan followed by postoperative strict diet plan can play a major role in preventing post operative abdominal compartment syndrome in pts of large incisional hernias.