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Managing Complicated Diverticulitis: A Multidisciplinary Approach to Left-Sided Colon Obstruction and Perforation

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ABSTRACT

Colonic diverticulitis has become one of the most prevalent cases that a healthcare professional sees at the hospital, yet some patients with colonic diverticulitis can present with some rare complications such as stenosis, perforation, and abscess formation. We present to you a 52-year-old male who presented to our hospital with severe left-sided abdominal pain, aggravated by oral intake, nausea, and loss of appetite for one month. The patient had a medical history of a sigmoid ulcer with polyps and diverticula. After initial management and multiple diagnostic interventions, including CT scans and colonoscopy, the patient underwent a left-sided colectomy with colostomy. Histologic examination revealed diverticulitis with colonic perforation, fat necrosis, serositis, and abscess formation. Negative for dysplasia or malignancy. Post-operative recovery was complicated by respiratory failure, electrolyte imbalances, and sepsis. The patient required extensive ventilatory support, transfusions, and nutritional management.

Keywords: diverticulitis; obstruction; perforation; complication; timely multidisciplinary approach.

INTRODUCTION

By definition, a diverticulum is a pouch-like protrusion of the intestinal wall that usually does not present with any alarming symptoms. When these pouches get inflamed, the term for such a presentation is called "Diverticulitis". Diverticulitis is divided into Simple diverticulitis, which manifests as constant left lower quadrant pain, nausea and/or vomiting, and change in bowel habit, and, Complicated diverticulitis. Both of these involve physical signs that consist of low-grade fever, lower abdominal tenderness, and an abdominal mass (in 20% of the patients) [1], except complicated diverticulitis may be accompanied by stenosis, abscess formation, and perforation. These complications are considered rare and need an appropriate and timely multidisciplinary approach to enable an efficient management plan and sufficient recovery with time. This case highlights the challenges of managing complex abdominal pathology in an elderly male with significant preoperative deterioration and postoperative complications, including sepsis, multi-organ dysfunction, and ventilator support.

PATIENT OVERVIEW

- **Age/Gender:** 52-year-old male.
- **Medical History:** Sigmoid ulcer with polyps and diverticula (December 2023).
- **Chief Complaint:** Severe left-sided abdominal pain, nausea, loss of appetite, and pain aggravated by oral intake for 1 month.
- **History of presenting illness:** A 52-year-old male presented to the Emergency Department (ED), and was previously in good health until one month ago when he began experiencing sudden, sharp, and intermittent left lower abdominal pain. The pain was localized, non-radiating, and lasted for approximately 30 seconds with an intensity of 8/10. The patient noted that the pain was aggravated by oral intake, which led to a significant loss of appetite, and has an unexplained weight loss over the past 2-3 months, a decrease from 101 kg to 66 kg. He did not experience any associated symptoms such as headaches, heartburn, generalized body aches, or alterations in bowel habits. Despite the intensity of the pain, he did not take any medications to relieve it prior to admission.

Clinical History and Previous Hospital Visits

He had a similar episode in December 2023 where he was diagnosed using colonoscopy (on the 26th and 27th of December 2024) with a sigmoid ulcer with polyps and diverticula of the sigmoid colon. A CT scan of the abdomen showed multiple large gut polyps in almost the entire length of the colon with neoplastic transformation at the mid-descending

colon, infiltrating extra-serosal mesocolonic fat and adjacent peritoneum with locoregional nodal metastases.

On the 14th of October 2024, he went to a hospital where a colonoscopy was conducted and showed a sigmoid lesion narrowing the lumen, and several long linear ulcerations with small diverticula along all parts of the colon. He was then admitted to another hospital for 20 days, where a CT without contrast (8th October 2024) showed a 10 cm segment of luminal narrowing and mural thickening in the lower descending colon, while a CT with contrast (31st October 2024) revealed a solid mass lesion at the terminal descending colon with diverticula. A colonoscopy on the 30th of October 2024 with a biopsy revealed a low-grade dysplasia, active on moderate colitis due to large masses and ulceration at the recto-sigmoid colon.

The course of treatment received from 8th October 2024 till 1st November 2024 was as follows:

- 8/10/2024: TAB 5HT3-Ondansetron 8mg (1 TAB, PO, BD for 5 days)
- 8/10/2024: TAB Paracetamol 500 mg (1 TAB, PO, TDS for 5 days)
- 16/10/2024: TAB Pantoprazole 40 mg (1 TAB, PO, OD for 7 days)
- 16/10/2024: SUS Aluminum Hydroxide/ Magnesium Hydroxide suspension (20 ml Oral, TDS for 30 days)
- 17/10/2024: TAB Chlorpromazine 25 mg (1 TAB, PO, TDS for 14 days)
- 17/10/2024: TAB Domperidone 10 mg (1 TAB, PO, TDS for 15 days)
- 01/11/2024: TAB Metronidazole 500 mg (1 TAB, PO, TDS for 5 days)
- 01/11/2024: TAB Ciprofloxacin 500 mg (1 TAB, PO, BD for 5 days)

Other than the underlying condition mentioned previously, no other medical condition was noted. (Kindly note that all of these reports and medications were given to us by the patient from previous visits and admissions at other hospitals.)

INITIAL CLINICAL PRESENTATION AT THUMBAY UNIVERSITY HOSPITAL

On Examination

The patient was conscious, alert, and cooperative, yet he looked lethargic as history was taken. Abdominal tenderness in the left flank was noted; otherwise, the systemic exam was unremarkable.

TABLE 1: Vitals of the Patient from 7 November 2024 to 11 November 2024 (Operation Day).

Date	07/11/2024	08/11/2024	09/11/2024	10/11/2024	11/11/2024
Temperature	36.8˚C	37.8 ˚C	37 ˚C	37 ˚C	36.8 ˚C
Blood Pressure	132/88 mmHg	116/76 mmHg	126/78 mmHg	121/72 mmHg	121/91 mmHg
Pulse Rate	95/min	97/min	105/min	110/min	112/min
Respiratory Rate	18/min	18/min	19/min	18/min	24/min
SPO_2 (Oxygen Saturation)	98%	96%	96%	96%	98%

MANAGEMENT

Initial Management

- Upon assessment, he was promptly admitted to the Intensive Care Unit (ICU) for closer monitoring and management due to the severity of his symptoms and the suspicion of a significant abdominal pathology.
- The patient's vitals and urine output were monitored, and he was managed appropriately by giving IV fluids, ceftriaxone, pantoprazole, analgesics, ondansetron, anti-spasmodics, and antiemetics, for symptomatic management. At that time, the patient was kept on low-residual, high-calorie protein-rich fluid, including yoghurt shakes, coconut water, and fresh juices in meals.

On the 10th of November, the patient was kept nil per os (NPO) for 8 hours, and bowel preparation was started. The patient was given a PO Citrafleet sachet every 2 hours – 4 needed to be given in total – but were stopped later due to the patient vomiting and being unable to tolerate orally. Alternatively, the patient was able to tolerate PO Flatuna 1 TAB BD and PR Fleet Enema 133 ml BD for 1 day. The anesthetist advised keeping 2 FFPs and 1 PRBC prepared before the procedure.

Consultations

Gastroenterologist, surgical oncologist, general surgeon, anesthetist, pulmonologist, nephrologist dietitian, physiotherapist.

TABLE 2: Laboratory Results from 7 November 2024 to 11 November 2024 (Pre-Operative).

Date		7/11/24	8/11/24	10/11/24	11/11/24	
Time		13:29 PM	10:39 AM	12:04 PM	07:24 AM	Range
	Unit					
Blood Typing ABO / Rh (D)		-	-	*"O" Positive*		
CBC/CRP						
Hemoglobin (Hb)	g/dL	9.5 ↓	8.7↓	9.4↓	-	13 -17
HCT	%	29.30↓	26.90↓	28.80↓	-	40.0 – 50.0
RBC Count	X 10^9/UL	3.5 ↓	3.2↓	3.4↓	-	4.5 – 5.5
MCV	fL	84.0	85.1	85.5	-	83.0 – 101.0
MCH	pg	27.3	27.5	28.0	-	27. 0 – 32.0
MCHC	g/dL	32.5	32.3	32.8	-	31.5 – 34.5
RDW-CV	%	15.9 ↑	16.1↑	17.2↑	-	11.6 – 14.0
Platelet Count	X 10^3/uL	528 ↑	474↑	522↑	-	150 – 410
MPV	fL	7.1 ↓	6.6↓	7.0↓	-	7.5 – 11.5
WBC Count	X 10^3/uL	4.2	3.8↓	5.0	-	4.0 – 10 .0
CRP	mg/L	118.2↑	128.6 ↑	-	-	<5.0
PCT-Q	ng/mL	15.930↑	5.848↑	-	-	<0.5
Coagulation Profile						
Prothrombin Time (PT)	Sec	15.3 ↑	-	16.8↑	18.3↑	9.4 – 12.5
PT Control	Sec	10.9	-	10.9	10.9	
INR	-	1.40 ↑	-	1.54↑	1.68↑	Non – Therapeutic – 1.10
Activated Partial Thromboplastin Time (APTT)	Sec	43.2 ↑	-	41.4↑	42.6↑	25.1 – 36.5
Liver Function Test						
Bilirubin – Total	mg/dL	0.71	-	-	-	0.30 – 1.00
Bilirubin – Direct	mg/dL	0.26	-	-	-	Up to 0.30
Bilirubin – Indirect	mg/dL	0.45	-	-	-	0.30 – 1.00
Total Protein	g/dL	5.8 ↓	-	-	-	6.6 – 8.7
Albumin	g/dL	2.48↓	-	-	1.94↓	3.50 – 5.20
Globulin	g/dL	3.3	-	-	-	2.3 – 3.5
Albumin/Globulin Ratio (A/G)	Ratio	0.7↓	-	-	-	1.1 – 2.2
Alkaline Phosphatase (ALP)	U/L	70	-	-	-	40 - 129
Aspartate Aminotransferase (AST)	U/L	12	-	-	11	Up to 50
Alanine Aminotransferase (ALT)	U/L	8	-	-	5	Up to 50
Renal Function Test						
Creatinine	mg/dL	0.54↓	-	-	0.54↓	0.67 – 1.17
eGFR (Non-African American)	ml/min/ $1.73m^2$	159.7	-	-	-	>= 60
GFR (Non-African American)	ml/min/ $1.73m^2$	194	-	-	-	>= 60
Urea	mg/dL	13.89↓	-	-	13.90↓	17.00 – 43.00
Calcium – Total (Ca)	mg/dL	7.75↓	-	-	7.37↓	8.60 – 10.00
Corrected Calcium	mg/dL	9.0	-	-	9.0	
Sodium (Na)	mmol/L	136.7	-	-	134.7↓	136.0 – 145.0
Potassium (K)	mmol/L	3.8	-	-	4.8	3.5 – 5.1
Chloride (Cl)	mmol/L	100	-	-	102	98 – 107

Glucose – Random	mg/dL	115	-	-	-	
Phosphorus (P)	mg/dL	2.6	-	-	2.5	2.5 – 4.5
Bicarbonate (HCO_3)	mmol/L	27.8	-	-	24.0	21.0 – 31.0
Endocrinology/ Hormones Report						
Prostate Specific Antigen (PSA)	ng/mL	0.85	-	-	-	Up to 4
Carcino Embryonic Antigen (CEA)	ng/mL	1.41	-	-	-	Non-smoker <3.0 Smoker <5.0
Immunology – Infectious Disease Screening						
HBs Ag	COI	0.5	-	-	-	<0.900
HCV	COI	0.06	-	-	-	<0.900
HIV-1Ag+Ab to HIV-1 + HIV2 (IVth Gen)	COI	0.28	-	-	-	<0.900
Serum Lipid Profile						
Cholesterol – Total	mg/dL	66↓	-	-	-	< 200
Triglycerides	mg/dL	77	-	-	-	< 150
HDL Cholesterol	mg/dL	29↓	-	-	-	< 40
LDL Cholesterol	mg/dL	22	-	-	-	

Diagnostic and Further Management

- *Routine Urine Analysis on 7/11/2024 at 19:57 PM showed (positive findings only):*
  - Protein: Trace and Urobilinogen ++

- *Ultrasonography of Whole Abdomen was done on 7/11/2024 at 17:50 PM:*

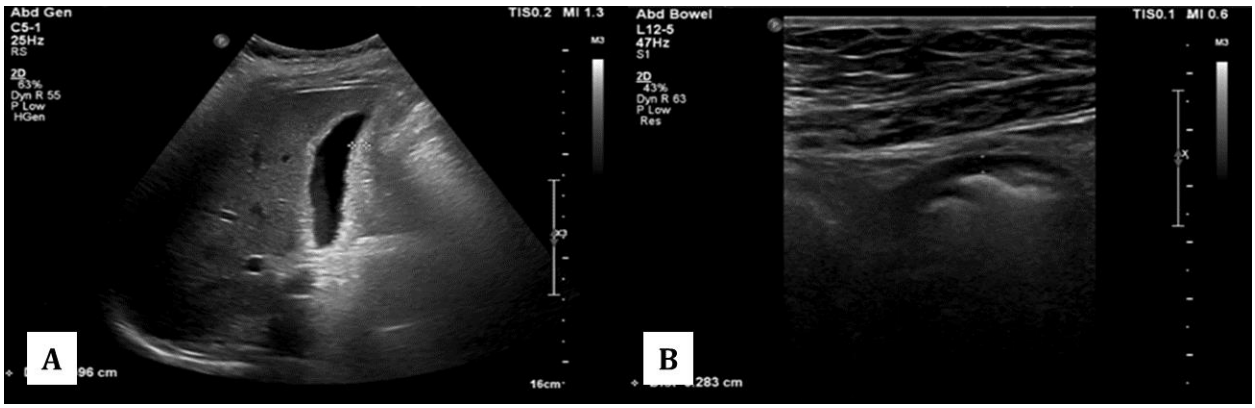


FIGURE 1: (A) Ultrasound of gallbladder, (B) Ultrasound of Whole Abdomen (bowel loop).

Impression

- Fatty changes in the Liver, Gallbladder wall thickening (5.9mm), suggestive of acalculous cholecystitis, and Mural thickening in the bowel loops in the pelvic region.

- *Chest X-ray (PA View) was done on 7/11/2024 at 16:19 PM:*

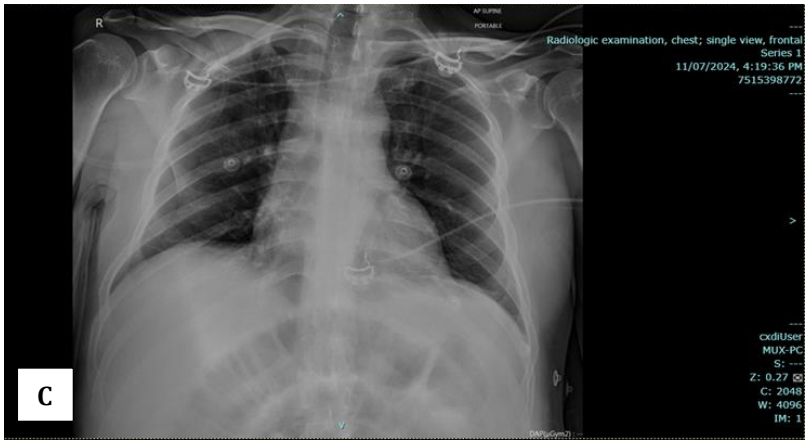


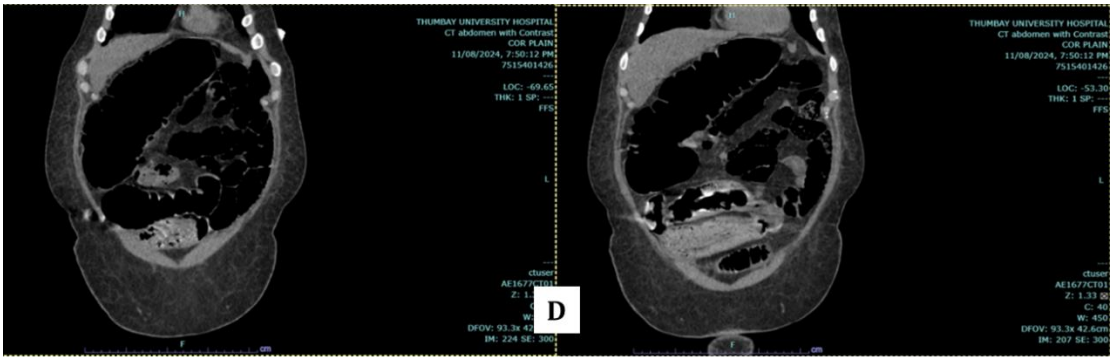
FIGURE 2: (C) Sows a Chest X-ray in Posteroanterior View.

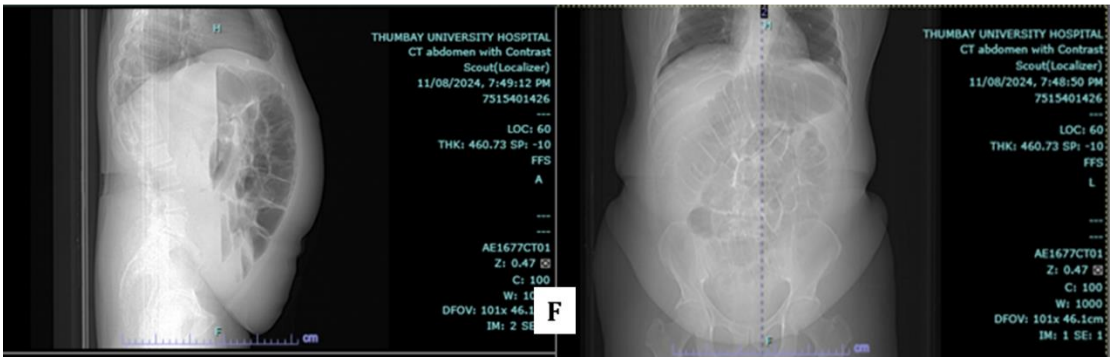
Impression
- Bilateral lung fields are clear, Bilateral costophrenic angles are clear, Trachea and mediastinum are central, and Cardiac shadow is unremarkable.

- *Routine Stool Analysis on 8/11/2024 at 16:20 PM was normal, yet:*
  - Occult Blood (Stool) was Positive
  - H. Pylori Ag in Stool was Negative
  - Fecal Calprotectin was high: 239.8 ug/g stool
  - Microscopic examination revealed Pus cells 2-4/HPF, and Blood 2-3/HPF

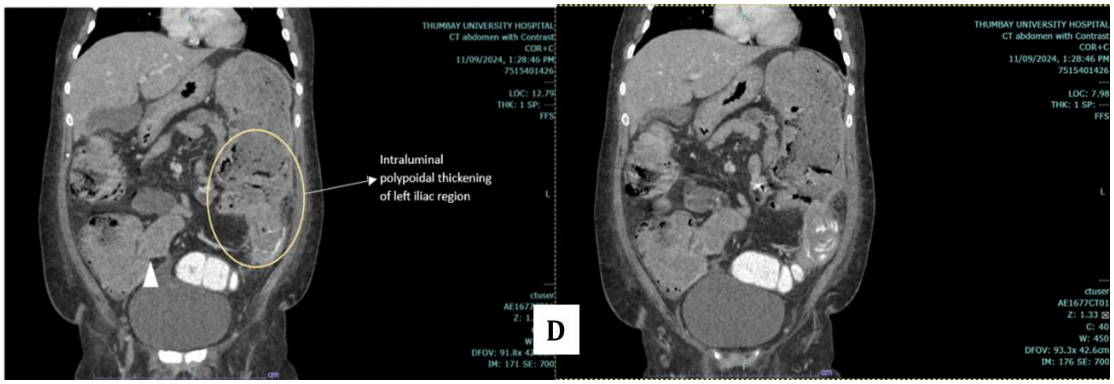
- *A CT Abdomen with contrast was done on 8/11/2024 at 7:50 PM and repeated on 9/11/2024 at 1:28 PM due to fecal impaction:*

8/11/2024





9/11/2024



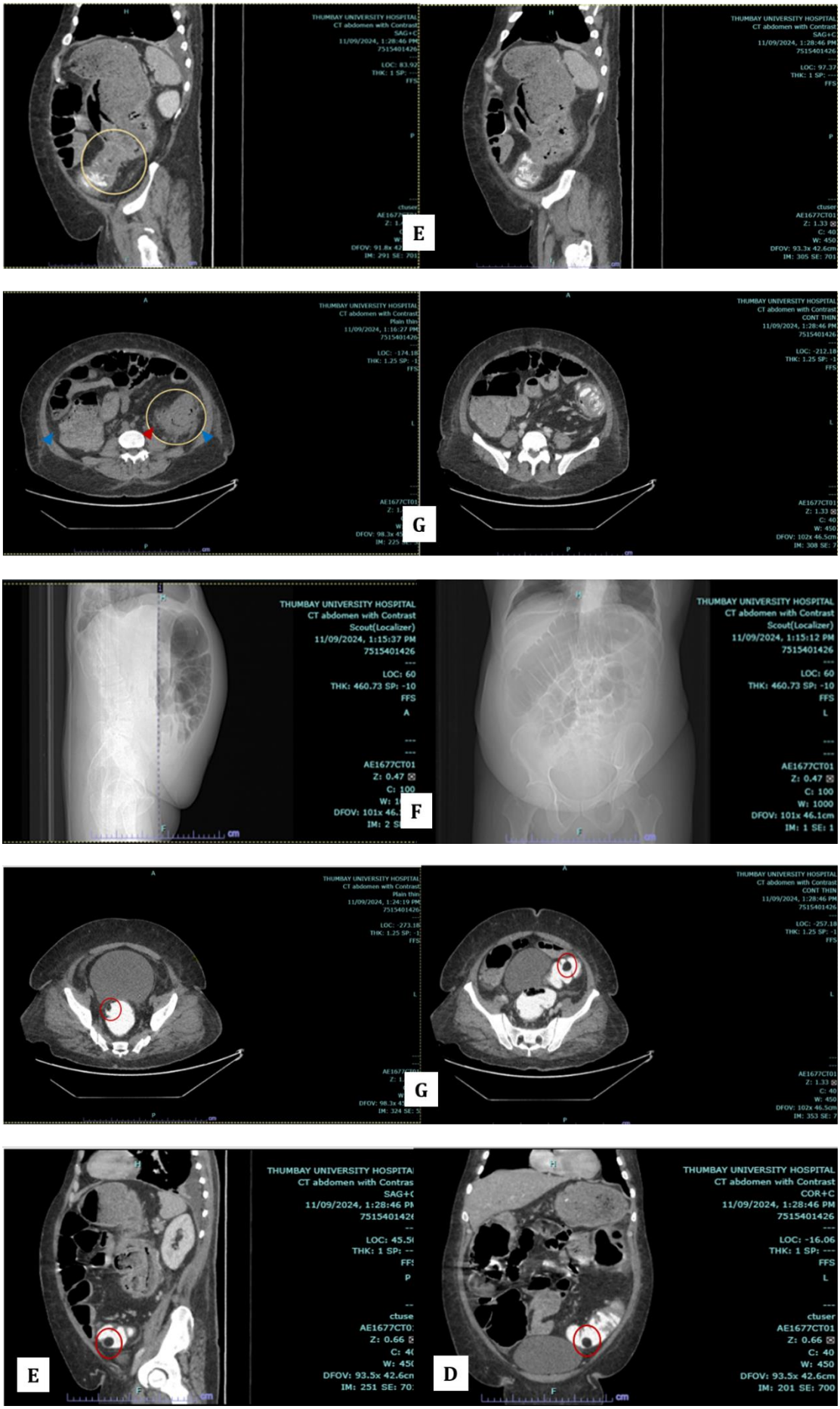


FIGURE 3: (D) CT scan with contrast of Whole Abdomen (Coronal View), (E) CT scan with contrast of Whole Abdomen (Sagittal View), (F) X-ray of Whole Abdomen (in Lateral and Supine Frontal View respectively), (G) CT scan with contrast of Whole Abdomen (Axial View).

(1) There is the irregular, intraluminal, polypoidal thickening of the descending colon in the left iliac region (displayed within the yellow circle), which is causing a proximal dilatation of the large bowel, including the descending colon, transverse colon, and ascending colon that is significantly bowel fecal loaded. Mild dilatation of the terminal ileal loop is also seen (white arrow). Mild pericolic fat stranding (red arrow) and thickening of the lateral conal fascia are seen on both sides (blue arrow), predominantly on the left side. The rectal contrast is not seen above the level of the lesion.

(2) Two to three well-defined rounded lesions (filling defect in the intraluminal contrast) are seen in the sigmoid colon, the largest measuring 11 x 10mm in size (red circle).

(3) No evidence of free air in the abdominal or peritoneal cavity was seen.

Final Impression

- Fatty liver changes.
- Irregular, intraluminal, polypoidal thickening of the descending colon in the left iliac region, with large bowel obstruction.

On 11 November 2024, the bowel preparation was completed. Vitals and urine output were still being monitored. On that day the patient was given the following: IV fluids, IV Konakion 10 mg BD, and IV Perfalgan 1 gm QID. What was alarming was that the patient's health was deteriorating (nausea + vomiting + distended abdomen), and CT findings showed bowel obstruction due to a mass at the descending colon. The plan was as follows: as the condition did not improve, conservative management was continued along with a multidisciplinary approach for an exploratory laparotomy with left colectomy + colostomy. Transfuse 2 units of FFPs were transfused, and 2 units of PRBCs were arranged for post-surgery.

SURGICAL INTERVENTION

- **Surgery (11-Nov-2024):** Left-sided colectomy with colostomy under general anesthesia.

- **Operative Findings**
  - Mass (mostly inflammatory) was found in the descending colon.
  - Perforation at mesentery.
  - Ulcerations are located at the descending colon as well as the sigmoid colon.
  - A colostomy was done at the distal transverse colon.
  - Fluid 3 L, 1-unit RBC, blood loss 700 ml, U/O 300 ml.

POST-OPERATIVE INSTRUCTIONS

- Shift to ICU and keep intubated.
- RL at 200 ml/hr.
- Continue with standard lab work and monitor ABG for 3 days.
- Painkillers to reduce pain.
- Add IV Norepinephrine.
- IV Meropenem and IV Metronidazole for 3 days.
- Monitor vitals and urine output. Monitor Foley's catheter and intraperitoneal drains in situ. Stoma care is to be carried out and monitored.

POST-OPERATIVE COURSE

Post-Op Day 1 (11 - 14 November 2024)

(1) Vitals: BP 148/75, Pulse 120 bpm, RR 18/min, SPO2 99%.

(2) Urine Output: 30-40 ml/hr.

(3) Lab Results (11 November 2024) : Hemoglobin 10.1 g/dL, WBC 5.1 x 10^3 /uL, Platelets 321 x 10^3 /uL, Sodium 137.8 mmol/L, Potassium 4.9 mmol/L, Creatinine 1.03 mg/dL, Albumin 1.9 g/dL, Magnesium 1.99 mg/dL.

(4) Ventilator Support: Initially placed on mechanical ventilation (VC mode), then transitioned to CPAP mode, with fluctuating sensorium and multiple changes in ventilator settings. Required further intubation due to labored breathing and fluctuating GCS.

(5) Medications: IV fluids, pain management (Morphine), antibiotics (Meropenem, Metronidazole), Tranexemic acid, IV Calcium Gluconate, IV Human Albumin, Lasix, and Cisatracurium besilate.

(6) Complications;
  - Infection: Persistent fever, sepsis, coagulopathy, and cholestasis.
  - Nutritional Support: TPN was adjusted, and oral feeds were trialed post-surgery.
  - Respiratory Management: Extubation was performed, followed by reintubation (15 November 2024), and the patient was placed on continuous ventilation.

PROGRESS AND RECOVERY

15-Nov-2024

- Ventilator Support: Reintubated and on SIMV mode after oxygenation difficulties.
- Vitals: BP 119/67, HR 88, SPO2 100%, urine output stable at 30-40 ml/hr.
- Medications: Adjusted pain management (morphine) and antibiotics (Meropenem, Metronidazole).
- Pulmonologist was consulted after a bedside ultrasound was performed. It showed minimal bilateral pleural effusion for just medical management.

17-Nov-2024

- Ventilator Support: MV SIMV mode with stable vitals.
- Persistent Fever: Managed with antibiotic escalation (Vancomycin) and continued monitoring of electrolytes and lab results.

18-Nov-2024

- Ventilator Support: Stable on CPAP, successful extubation with gradual improvement.
- Nutritional Management: NG feeds and trial of oral feeds introduced.

19-Nov-2024

- Ventilator Support: Stable on NP (2 liters), extubated, and ventilatory settings adjusted.
- Feeding: Increased NG feeds and TPN adjustments.
- Labs: Serum osmolality 288.4; pus culture showed heavy growth candida albicans advised to add IV Fluconazole 200 mg BD for 14 days.
- The nephrologist consulted due to low creatinine and polyuria. He then advised close monitoring of lab reports, electrolytes, as well as serum and urine osmolality, and uric acid levels. Monitor urine output and add Desmopressin if necessary.

20-Nov-2024

- Ventilator Support: On CPAP, maintaining stable vitals.
- Nutritional Management: NG tube feeds were discontinued, and small quantities of pureed diet were tried. Calorie intake was being monitored by a dietitian.
- Physiotherapy: Intensive chest and limb physiotherapy for recovery.

As can be seen, the patient was taken care of thoroughly by different disciplines to ensure adequate amelioration of the patient's clinical status.

- *CT scan with Contrast on 22/11/2024 at 13:20 PM (Post-surgical):*

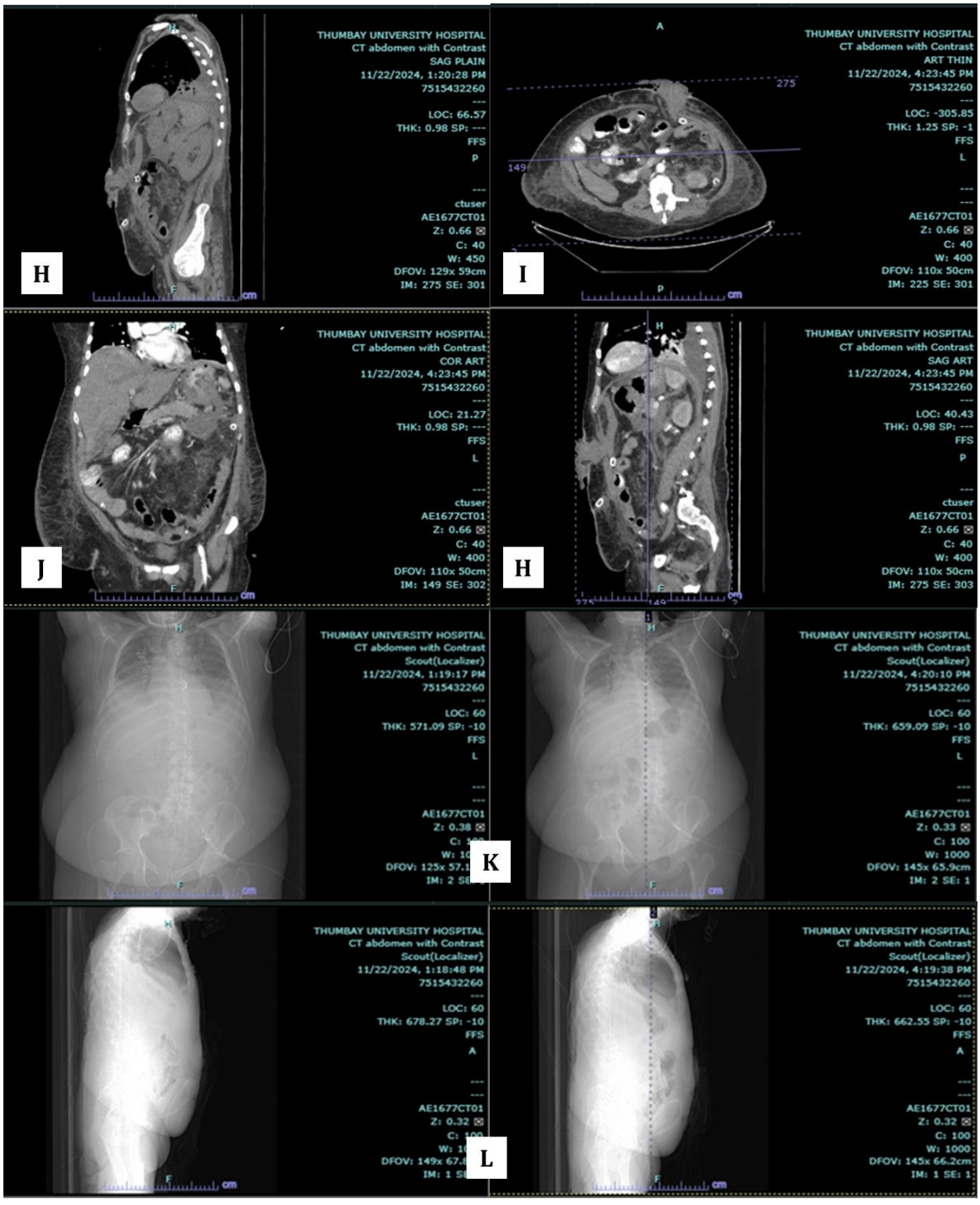


FIGURE 4: (H) Postoperative CT scan with contrast of Whole Abdomen (Sagittal View), (I) Postoperative CT scan with contrast of Whole Abdomen (Axial View), (J) Postoperative CT scan with contrast of Whole Abdomen (Coronal View). (K, L) X-ray of the Whole Abdomen (in Supine Frontal and Lateral View respectively).

CT FINDINGS ARE SUGGESTIVE OF

- Mild hepatomegaly.
- Right renal cortical cyst.
- Mild ascites with postoperative fat stranding were seen in the left upper quadrant with drainage tubes.
- No evidence of intestinal obstruction or contrast leakage is seen.

HISTOPATHOLOGY AND CYTOLOGY

Gross Examination: Rule out TB.

Received specimen labelled as colon, measuring 22.0 cm in length/10.0 cm in diameter with pericolic fat. The external surface perforated area was noted with puckering of pericolic fat. Cut-section mucosa shows multiple ulcerated areas dipping down the wall (in cross-section of a wall) measuring 12.0 cm in length and occupying the full circumference of the colon mucosa. It is 8.0 cm away from one resected end and 3.0 cm away from another resected end. Other areas of colon mucosa show no polyp or growth. Two lymph nodes were identified from pericolic fat.

Sections:
Cassette 1: One resected end
Cassette 2: Another resected end
Cassette 3: lesion proper 1 bit
Cassette 4: lesion proper 1 bit
Cassette 5-25: Full circumference of the wall, including from mucosa to serosal fat.

Microscopic Examination

The section studied shows (cassette 3 to 25) the invagination of mucosa into muscularis propria and serosa in multiple foci. The invaginations are extensively denuded of lining epithelium/ulcerated and covered by histiocytes and granulation tissue. Abscess material is seen tracking along reaching serosa; fat necrosis and extensive fibrosis are noted (phlegmon). Two benign reactive lymph nodes (sections 8,13) are seen. Vegetative material is seen in muscularis propria (section 9). Sections 1 and 2: Resected end sections are viable and free of abscess material. No dysplasia.

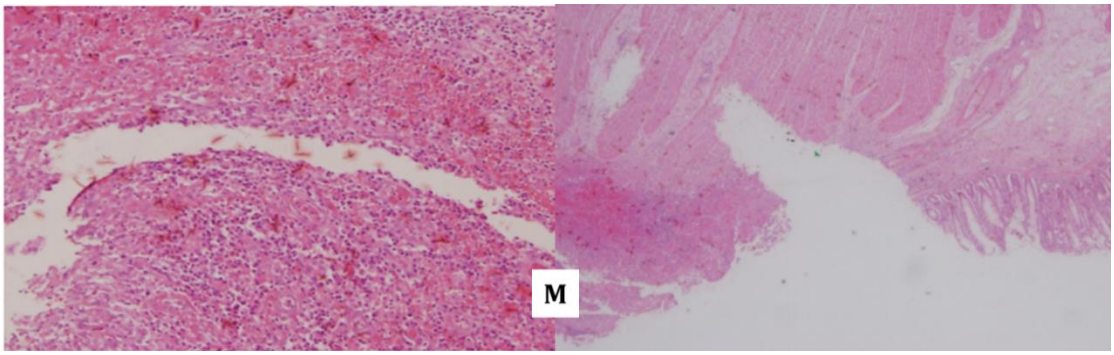


FIGURE 5: (M) Shows the histopathological findings of the resected colon.

DIAGNOSIS/IMPRESSION

Comments Labelled as Colon

- Diverticulosis/diverticulitis with colonic perforation, fat necrosis, serositis, and abscess formation.
- Negative for dysplasia/malignancy.
- No granuloma.
- AFB: Negative.
- PAS stain: no fungal organism.
- 2 reactive lymph nodes.

DISCUSSION

This case demonstrates the complexity of managing a patient with complicated diverticulitis that involves both obstruction and perforation of the left-sided colon - two sides of the same coin. Not to mention other complex structures such as sigmoid ulcerations and polyps.

Generally, the prevalence of diverticulosis increases as we age (around 5% at age 40, and by age 85, it becomes 65%) [1]. Modern studies have estimated that around 5% of individuals may develop diverticulitis [2]. Diverticulitis is known to be more prevalent in males than in females until the 6th decade of life when it becomes more prevalent in females [1]. Pathogenesis is commonly related to low dietary fiber, obesity, smoking, and chronic use of NSAIDs and steroids [3].

Other than the standardised lab investigations that we use, whole abdominal ultrasound is the initial instrument of choice to exclude other causes of abdominal pain, while contrast-enhanced CT scans are preferred for further diagnostic information (gold standard) [1,4,6]. As healthcare personnel, identifying the cause of obstruction is crucial for early intervention, and we need to be vigilant, as both acute diverticulitis and colon cancer can produce focal bowel thickening on CT scans [1]; hence colon cancer is considered one of the major differentials.

In our case, CT scans from other hospitals already illustrated luminal narrowing and mural thickening with segment involvement of around 10 cm, and the cause of stenosis was thought to be due to a mass until histopathology and cytology departments from our hospital proved no malignancy or dysplasia and that the mass was due to inflammatory causes. The associated culprit for the ulcers along the walls of the colon could have been due to ulcerative colitis, except the patient did not express bowel urgency or bloody diarrhea. Microscopically, the patient had abscess, fat necrosis, and extensive fibrosis (phlegmon) within the colon, which is more prominent in cases of complicated diverticulitis rather than ulcerative colitis [1].

A sample size of 110 patients with complicated diverticular disease was part of a retrospective study by Hussain *et al.* He highlighted the presence of phlegmon in 31% of the cases and stricture/obstruction in 10% [3,5].

Approximately 70% of acute uncomplicated (simple) colonic diverticulitis cases can be treated conservatively with broad-spectrum antibiotics, while patients with diverticulitis complicated by stenosis leading to colonic obstruction, perforation, abscess, or fistula formation will often need timely management and emergent surgery.

The surgical intervention using open laparotomy was necessary for our patient to manage the inflammatory mass (laparoscopic resectional treatment was avoided due to suspected peritonitis - which is considered a contraindication to such procedure [6].), but the postoperative recovery was complicated by respiratory failure, electrolyte imbalances, and sepsis. It is noteworthy to mention the patient's course highlights the utmost importance of multidisciplinary care and timely management, including medical (both gastrointestinal and oncological), anesthesiological, surgical, and nutritional, preoperatively, during the operation, and postoperatively, where infectious disease control, respiratory, nephrology, and physiotherapy departments also joined. Such strong teamwork provided the core to reaching a proper diagnosis in a timely fashion and managing the patient efficiently in all aspects according to his clinical status, as per protocol throughout his hospital stay.

CONCLUSION

The patient's recovery was prolonged and complex, but with appropriate interventions, including timely surgery, ventilator support, nutritional management, and antibiotic therapy, he made gradual progress. This case underscores the importance of comprehensive postoperative care, early detection of complications, and the role of close monitoring in preventing further deterioration.

AFTERMATH

The patient was discharged only after ensuring that all his vitals and inflammatory markers were stable, and care was sufficient. The patient is to be continued on physiotherapy to improve respiration and mobility.

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