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Case Report

Volvulus of transverse colon

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Introduction

The term volvulus is derived from the Latin word meaning torsion or twisting. Anatomy of the large intestine is very clear. The colon and its mesentery twist, leading to a closed loop colonic obstruction, a more proximal intestinal obstruction, and an abdominal crisis. Colonic volvulus accounts for less than 5% of all cases of intestinal obstruction. It usually occurs in the sigmoid colon. Transverse colon volvulus (TCV) is probably the rarest form of colonic volvulus, accounting for less than 11% of all cases of colonic volvulus, but with the highest mortality.

Case study

A 60-years-old female patient presented to the emergency with sudden onset upper abdominal pain, with distended abdomen and obstipation for past 3 days. No history of fever and vomiting was present, but patient was suffering from chronic constipation since last 4 months. Family history, no such complain was present in her family member. Patient was addict for tobacco.

Patient had pallor, tender abdomen and on per rectal examination, rectum was empty.

Plain X-ray of the abdomen revealed a twisted loop of colon lying in the upper midline (Figure 1).) Immediately after optimization of the patient, decision was taken up for emergency laparotomy with a diagnosis of large bowel obstruction due to volvulus, possibly of the sigmoid colon. At laparotomy, a grossly dilated and gangrenous transverse colon was found, which was twisted around mesentery itself in a clockwise fashion (Figure 2). The gangrenous colon was resected and covering loop ileostomy was given after resection and primary anastomosis.

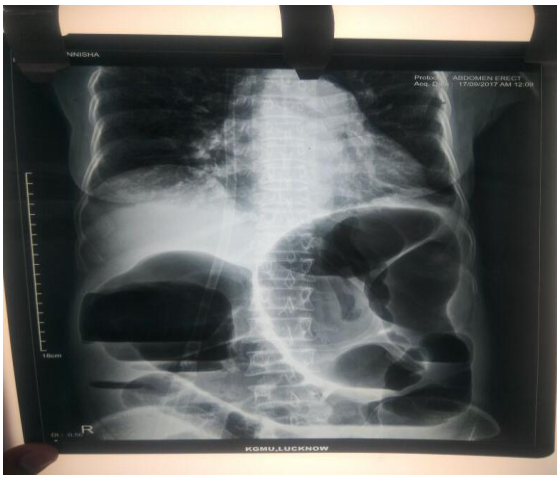


Figure-1: Preoperative plain X-ray abdomen AP erect view revealing a twisted loop of colon

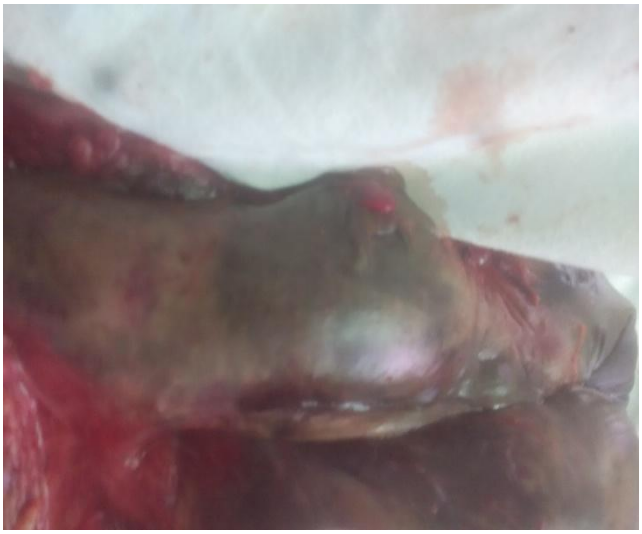
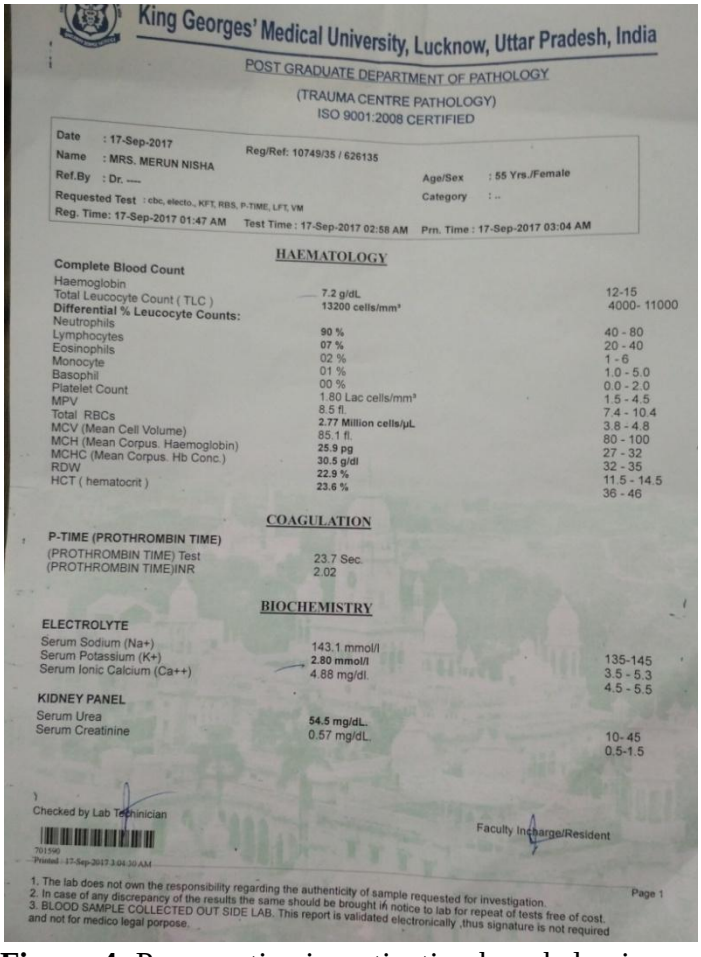


Figure-2: Dilated and gangrenous part of transeverse colon twisted around mesocolon in a clockwise faishon

Figure-3: Resected gangrenous part of tranverse colon volvulus



King Georges' Medical University, Lucknow, Uttar Pradesh, India

POST GRADUATE DEPARTMENT OF PATHOLOGY

(TRAUMA CENTRE PATHOLOGY)

ISO 9001:2008 CERTIFIED

Date : 17-Sep-2017 Reg/Ref: 10749/35 / 626135

Name : MRS. MERUN NISHA

Ref.By : Dr. ----- Age/Sex : 55 Yrs./Female

Requested Test : cbc, electo., KFT, RBS, P-TIME, LFT, VM Category : ..

Reg. Time: 17-Sep-2017 01:47 AM Test Time : 17-Sep-2017 02:58 AM Prn. Time : 17-Sep-2017 03:04 AM

HAEMATOLOGY

Complete Blood Count		
Haemoglobin	7.2 g/dL	12-15
Total Leucocyte Count (TLC)	13200 cells/mm³	4000- 11000
Differential % Leucocyte Counts:		
Neutrophils	90 %	40 - 80
Lymphocytes	07 %	20 - 40
Eosinophils	02 %	1 - 6
Monocyte	01 %	1.0 - 5.0
Basophil	00 %	0.0 - 2.0
Platelet Count	1.80 Lac cells/mm³	1.5 - 4.5
MPV	8.5 fl.	7.4 - 10.4
Total RBCs	2.77 Million cells/µL	3.8 - 4.8
MCV (Mean Cell Volume)	85.1 fl.	80 - 100
MCH (Mean Corpus. Haemoglobin)	25.9 pg	27 - 32
MCHC (Mean Corpus. Hb Conc.)	30.5 g/dl	32 - 35
RDW	22.9 %	11.5 - 14.5
HCT (hematocrit)	23.6 %	36 - 46

COAGULATION

P-TIME (PROTHROMBIN TIME)		
(PROTHROMBIN TIME) Test	23.7 Sec.	
(PROTHROMBIN TIME)INR	2.02	

BIOCHEMISTRY

ELECTROLYTE		
Serum Sodium (Na+)	143.1 mmol/l	
Serum Potassium (K+)	2.80 mmol/l	135-145
Serum Ionic Calcium (Ca++)	4.88 mg/dl.	3.5 - 5.3
		4.5 - 5.5
KIDNEY PANEL		
Serum Urea	54.5 mg/dL	
Serum Creatinine	0.57 mg/dL	10- 45
		0.5-1.5

Checked by Lab Technician

Faculty Incharge/Resident

1. The lab does not own the responsibility regarding the authenticity of sample requested for investigation.
2. In case of any discrepancy of the results the same should be brought in notice to lab for repeat of tests free of cost.
3. BLOOD SAMPLE COLLECTED OUT SIDE LAB. This report is validated electronically ,thus signature is not required and not for medico legal porpose.

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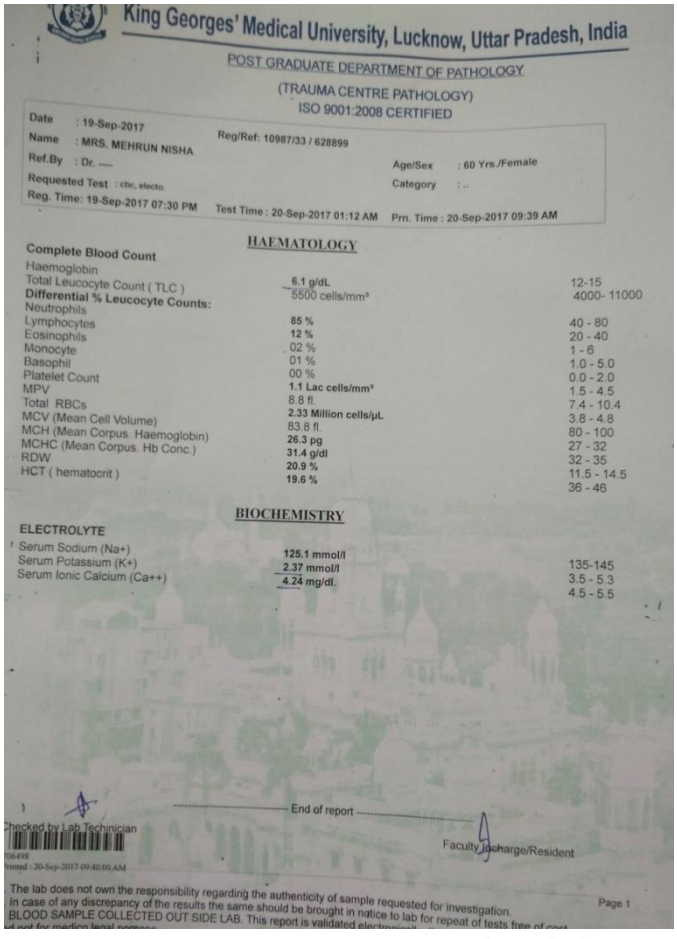
Figure-4: Preoperative investigation hypokelemia



King Georges' Medical University, Lucknow, Uttar Pradesh, India

POST GRADUATE DEPARTMENT OF PATHOLOGY

(TRAUMA CENTRE PATHOLOGY)

ISO 9001:2008 CERTIFIED

Date : 19-Sep-2017 Reg/Ref: 10987/33 / 628899

Name : MRS. MEHRUN NISHA

Ref.By : Dr. -----

Requested Test : cbc, electo. Age/Sex : 60 Yrs./Female

Reg. Time: 19-Sep-2017 07:30 PM Test Time : 20-Sep-2017 01:12 AM Category : .. Prn. Time : 20-Sep-2017 09:39 AM

HAEMATOLOGY

Complete Blood Count		
Haemoglobin	6.1 g/dL	12-15
Total Leucocyte Count (TLC)	5500 cells/mm³	4000- 11000
Differential % Leucocyte Counts:		
Neutrophils	85 %	40 - 80
Lymphocytes	12 %	20 - 40
Eosinophils	02 %	1 - 6
Monocyte	01 %	1.0 - 5.0
Basophil	00 %	0.0 - 2.0
Platelet Count	1.1 Lac cells/mm³	1.5 - 4.5
MPV	8.8 fl.	7.4 - 10.4
Total RBCs	2.33 Million cells/µL	3.8 - 4.8
MCV (Mean Cell Volume)	83.8 fl.	80 - 100
MCH (Mean Corpus. Haemoglobin)	26.3 pg	27 - 32
MCHC (Mean Corpus. Hb Conc.)	31.4 g/dl	32 - 35
RDW	20.9 %	11.5 - 14.5
HCT (hematocrit)	19.6 %	36 - 46

BIOCHEMISTRY

ELECTROLYTE		
Serum Sodium (Na+)	125.1 mmol/l	
Serum Potassium (K+)	2.37 mmol/l	135-145
Serum Ionic Calcium (Ca++)	4.24 mg/dl.	3.5 - 5.3
		4.5 - 5.5

End of report

Checked by Lab Technician

Faculty Incharge/Resident

The lab does not own the responsibility regarding the authenticity of sample requested for investigation.
In case of any discrepancy of the results the same should be brought in notice to lab for repeat of tests free of
BLOOD SAMPLE COLLECTED OUT SIDE LAB. This report is validated

Page 1

Figure-5 Postoperative investigation hypokalemia

Discussion

Transverse colon volvulus (TCV) was first described by Von Rokitansky in 1836. It is a very rare presentation of large bowel obstruction. TCV is said to occur more commonly in females than in males (2:1), in the second and third decades of life. Some authors have reported an additional peak in the seventh decade of life. In normal

situation, the transverse colon has a short mesocolon and is fixed at both its ends (the hepatic and splenic flexures), thus being less prone to undergoing volvulus. However, in the presence of various factors, such as congenital (abnormal fixity of the mesentery, congenital errors of midgut rotation); mechanical (previous surgery, adhesions, distal obstruction) and physiological (chronic constipation, pregnancy, colitis), it can rotate, leading to a closed loop obstruction, gangrene or even perforation in neglected cases. The diagnosis is rarely made preoperatively. Plain abdominal X-rays may show massive dilatation of the proximal colon with an empty distal bowel and two air-fluid levels caused by double closed-loop obstruction (at the level of the transverse colon and ceacum), or a 'bent inner tube appearance'; however, plain X-rays are not very sensitive, and may not contribute to the diagnosis. In such cases, a barium enema study may help in the diagnosis by showing the typical 'bird's beak' appearence. Computerised tomogram scan (CT scan) has the highest sensitivity, and will help delineate the closed loop obstruction, marked dilatation of the proximal colon and collapse of the distal portion of the transverse/descending colon, as well as the twisting of the mesenteric vessels, all of which suggest a TCV. Treatment of transverse colon volvulus requires urgent laparatomy. Although there are occasional reports of successful conservative management. Surgical option includes: detorsion alone,detorsion with colopexy, resection with primary anastomosis or resection with ileostomy or colostomy. Both detorsion and detorsion with colopexy have a higher chance of recurrence than resection. Presence of ischemia or necroses of the bowel are definitive indications for resection of the bowel. Transverse colon resection is the treatment of choice for transverse colon volvulus to prevent recurrence. Ileostomy or colostomy and distal mucus fistula remain an option to avoid anastomotic leakage.

Conclusion

Transverse colon volvulus is a very uncommon cause of colonic obstruction and usually present with acute abdomen. Diagnosis should be made as possible as early by physical examination and radiological .because of high mortality treatment consists of urgent surgery. Hypokalemia may be a risk factor for transverse colon volvulus.

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