

Abdomen - The Pandora's Box

Acute Mesenteric Ischemia Associated with Pregnancy: A Rare Case Presentation

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Abstract: *Acute mesenteric ischaemia (AMI), which is caused by reduction in blood flow that supplies nourishment and oxygen to intestinal tissue, results in tissue lesions, which in turn induce intestinal necrosis and infarction. (1) AMI's overall incidence rate has been reported to be 12.9/100, 000 patients annually, according to Stefan Acosta's study on epidemiology of mesenteric vascular diseases.1) AMI's clinical manifestation is crucial for 3 main reasons: first, it is most common cause of acute abdomen among patients over 75yrs of age, more common than appendicitis and rupture of abdominal aortic aneurysm [2], second, its mortality rate is high, at about 82% after diagnosis, and its management is palpably difficult [3], and third, it's typically difficult to diagnose, with symptoms appearing only at onset of intestinal infarction and no specific diagnostic tests for it exist.*

Keywords: Acute mesenteric ischemia, SMV thrombosis, pregnancy, stillbirth

1. Case Presentation

An 18 - year - old woman who was 32 weeks and 5 days gestation having primigravida arrived at our institute's gyne - obstetrics emergency room at noon complaining of abdominal pain. Two hours after being admitted, she gave stillbirth. Abdominal distention was linked to worsening pain.

Upon physical examination, patient was pale and hemodynamically unstable; their blood pressure (BP) was 90/60mm Hg, and their pulse rate was 120beats/min. Patient was revived and given an IV infusion of noradrenalin at a rate of 8 mcg/kg/min. Laboratory testing was performed with a high suspicion of uterine rupture (Table1).

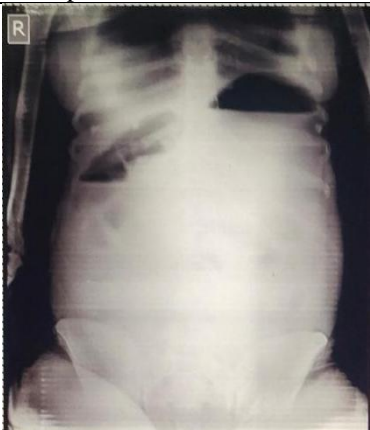
Table 1: Laboratory tests

Hematic Biometrics	Hb: 9.5g/dL, PCV: 27.0%, MCV: 70fL, MCH: 21, PC: 240 × 103 /uL, WBC: 8.6×103/uL, N: 82%, Lym: 16%, Mo: 1%, Eos: 0%, Bas: 1%
Liver and Kidney Function Tests	Glucose: 126mg/dL, creatinine: 0.53mg/dL, AST: 20.7U/L, ALT: 16.8U/L, urea: 16mg/dL
Coagulation and Blood Profile	BT: 1.30min, CT: 4.30min, blood group: AB, RH (+)
Serum electrolytes	Na: 136mmol/L, K: 4.8mmol/L, Cl: 110mmol/L

After clinical evaluation patient with post - delivery unsettled abdomen was further referred to surgery department. Surgery department examined patient and observed distended abdomen with generalised tenderness with dull notes on percussion and sluggish bowel sounds on auscultation.

Ryles tube contains being billious. Accordingly, imaging studies (x - ray abdomen erect and Ultrasound abdomen and pelvis) to rule out acute billiary conditions.

Table 2: The Abdomen Ultrasound Report

Liver, common bile duct, and gallbladder	"Normal in size and echotexture. Portal vein with appropriate calibre. Mild to moderate free subhepatic fluid was observed. No focal lesions, no bile duct dilation. Gallbladder partial and no gallstones.	 <p>MRS SAMITRI PAWAR / 18 year(s) / Femr/ERRRECT 30/12/2024 07:48:08 PM Ref Sp: GMSH SAANI DIAGNOSTIC CENTRE, AURANGABAD, MOB:- 9325051668</p>
Pancreas Bowel loops	Not visible from post - partem abdomen". Visualised "small bowel loops" in right inguinal fossa and periumbilical region appear dilated diameter being 2.9 cm in RIF with fluid and feces, showing sluggish to and fro peristalsis S/o ? small bowel obstruction Appears bulky post - partem	
Uterus		

Despite taking analgesics, patient's pain persisted 4hrs after delivery. Results of the abdominal ultrasonography report (Table 2) were not significant. Attending gynecologist admitted patient to operating room, where obstetric as well as surgical intervention had been carried out due to a high suspicion of uterine rupture.

Obstetric intervention: Midline incision made. A post - partem bulky uterus without any rent was noted.

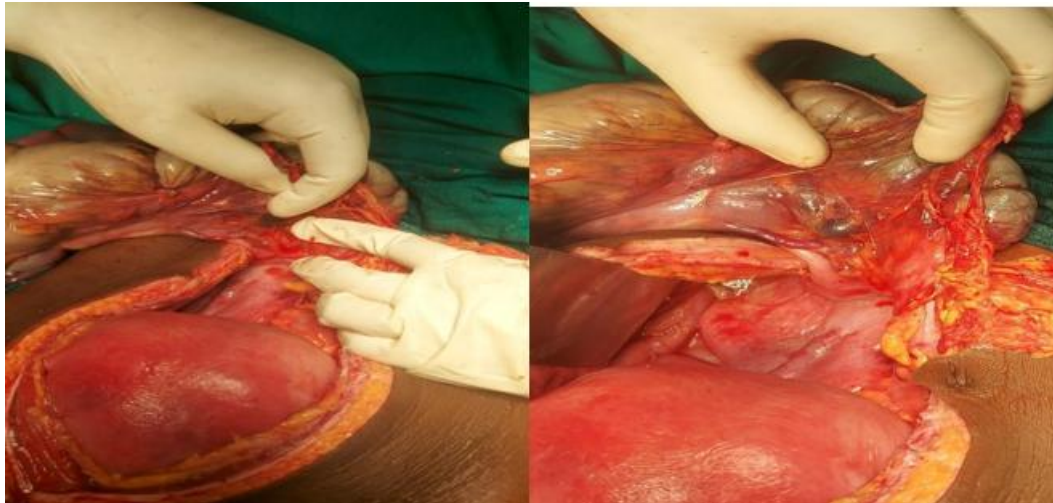
Surgical intervention: Necrosis was found by surgeons in intestinal loops of third part of duodenum jejunum, ileum, cecum, ascending colon, proximal 2/3rd of transverse colon (Fig.1). The entire necrotized intestinal segment was surgically removed. After duodenum and transverse colon underwent end - to - end anastomosis, cavity had been cleaned with warm 0.9% normal saline. Patient was sent to intensive care unit (ICU) post - surgery to stabilize post - sepsis, restore homeostasis, and provide mandatory parenteral nourishment.



Gangrenous Bowel Loops

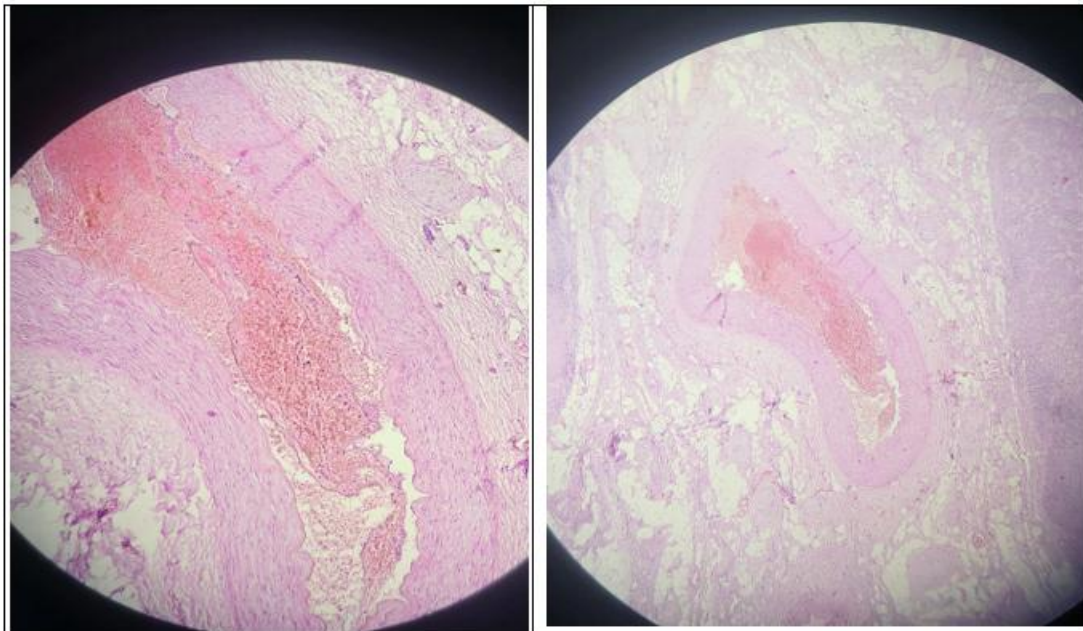


USG Guided Abdominal Tap



Superior Mesenteric Vein Thrombus and Post - partem Bulky Uterus Without Any Rent

Histopathological examination reveals ischemic necrosis of intestine suggestive of changes in gangrene. Multiple large mesenteric vessels show thrombi.



2. Discussion

A rare condition, mesenteric ischaemia develops rapidly and presents with a nonspecific early clinical appearance. Incidence of AMI during pregnancy is quite rare. However, this correlation might be explained by physiological aspects of pregnancy, where a marked rise in factors VII as well as VIII - C as well as fibrinogen results in hypercoagulable state [6, 7]. Although such alterations raise risk of thromboembolism, they also help body adapt to blood loss during childbirth [7, 8].

For AMI, tomography as well as contrast angiography are typically best diagnostic imaging methods [9 - 11].

In terms of management, bowel resection should be carried out in cases with intestinal necrosis, however, anticoagulants along with thrombolytic drugs may be used in patients having no necrosis [13, 14].

A resection and duodenocolonic anastomosis were carried out in light of the intestinal necrosis results. Finally, either venous or arterial causes may be responsible for mesenteric ischaemic disease. Incidence rate of mesenteric venous thrombosis is 16percent, whereas acute arterial occlusion of mesenteric artery is 68percent, according to statistics obtained from autopsy [1].

Mesenteric venous thrombosis is linked to thrombophilia and is more common in women of reproductive age who have had coagulopathies, autoimmune disease problems, or multiple abortions [1, 7, 15]. Thrombus or embolus that moves towards mesenteric artery and obstructs vessel happens in cases of arterial origin, which have been typically linked to elderly people having chronic disease, dyslipidaemia, hypertension, along with history of acute myocardial infarction [1, 2].

3. Conclusion

Acute abdominal pain among young pregnant women having thrombophilia risk factors should raise the diagnostic

suspicion of AMI. For enhancing patient prognosis and get an early diagnosis, analysis along with imaging studies must be conducted at the earliest.

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