



# Acute Intestinal Ischemia and Mesenteric Vein Thrombosis with Mortality During Pregnancy

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## Case Report

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## Abstract

**Objective:** We present a case of acute intestinal ischemia and mesenteric venous thrombosis in a first trimester pregnant woman with surgical treatment. Case presentation and intervention: Our case was a 23-year-old multigravid woman at 8 weeks gestation. She presented to Ataturk University Research Hospital with complaints of abdominal distention, nausea, vomiting and constipation. The first day after admission, complained of more intense vomiting, abdominal distention and pain. An emergency laparotomy was performed. The part of jejunum, entire ileum, part of the ascending colon were necrosis, and thrombosis was discovered in the mesenteric venous. The necrotic intestine was resected and an end-to-end colo-jejunal anastomosis was performed. Postoperative, the patient was started on anticoagulants and antibiotherapy in intensive care. Unfortunately, the patient died on the second day after the operation.

**Conclusion:** Mesenteric ischemia and MVT in pregnancy is a rare, but important cause of intestinal ischemia. When a pregnant patient presents with an acute abdomen, mesenteric ischemia and MVT should be included in the differential diagnosis.

**Keywords:** Mesenteric ischemia; Thrombosis; Pregnancy

**Abbreviations:** MVT: Mesenteric vein thrombosis; IVF-ET: In Vitro Fertilization-Embryo Transfer.

## Introduction

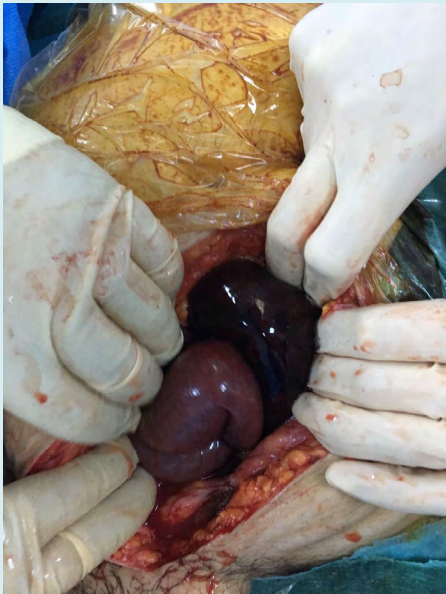
Acute mesenteric ischemia is commonly seen in old patients. Acute intestinal ischaemia is caused by mesenteric venous thrombosis in 5-15% of patients. Mesenteric vein thrombosis (MVT) is rare and difficult to diagnose due to its nonspecific presentation. If diagnosis or treatment were delayed, it can be fatal because intestinal infarction or variceal bleeding may occur [1-4]. The mortality rate among patients with acute MVT ranges from 20 to 50% [5]. A wide range of prothrombotic states have been linked to MVT, including cancer, trauma, intraabdominal inflammatory conditions, the postoperative state, oral contraceptive use,

in vitro fertilization-embryo transfer (IVF-ET), cirrhosis and portal hypertension, and those caused by heritable or acquired factors, including deficiencies of protein C, protein S or antithrombin III [5-8]. Pregnancy itself is a risk for hypercoagulopathy. We present a case of acute intestinal ischemia that ends with mortality during pregnancy.

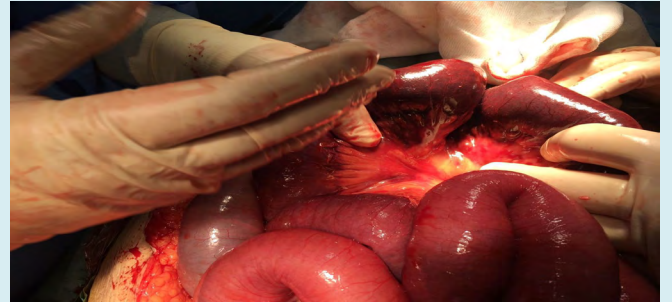
## Case Report

A 23-year-old multigravid woman, at 8 weeks gestation attended our obstetric clinic complaining of abdominal distention, nausea, vomiting for 24 h. She had no significant medical, surgical or family history and no history suggestive of thromboembolism. Anamnesis has been found to be constipated for 8 days. She had not used oral contraceptives or any other hormonal therapy. She did not have a history of

alcohol and smoking. A physical examination on admission showed a gravid uterus just below the umbilicus. Abdominal distension was evident but defensive and rebound absent. Bowel sounds were close to normal. A laboratory examination revealed a leukocyte count of  $13.1 \times 10^9/L$  with neutrophils accounting for 73.9% , hemoglobin level of 98.6 g/L and platelet count of  $187 \times 10^9/L$ . Biochemical parameters and coagulation profile tests were within normal limits. Obstetric ultrasound was compatible with the 8-week-old fetus. In magnetic resonance imaging, there was no finding other than mild dilation in the intestinal segments. After approximately 24 hours, laparotomy decision was taken due to the increase in symptoms of the patient (nausea, vomiting, abdominal distention) and the development of diffuse abdominal pain. On exploration, approximately 1200 mL of serous peritoneal fluid was found in the abdomen. The part of jejunum, entire ileum, part of the ascending colon were necrosis, and thrombosis was discovered in the mesenteric vein (Figures 1-3). The necrotic intestine, measuring approximately 160 cm, was resected and an end-to-end colojejunal anastomosis was performed. The patient's hematological parameters during the operation showed a white cell count of  $17.72 \times 10^9/L$ , neutrophils accounting for 87%, hemoglobin of 8,1 g/dL and a platelet count of  $144 \times 10^9/L$ . The patient was transferred to the surgical intensive care unit after operation. intravenous antibiotics, total parenteral nutrition and full anticoagulation with low molecular weight heparin were initiated postoperatively. After leaving the intensive care unit, it was planned to terminate the pregnancy with the consent of the patient and the family. Unfortunately, the patient died on the 2nd postoperative day.



**Figure 1:** Small intestinal ischemia.



**Figure 2:** Intestinal ischemia and MVT.



**Figure 3:** Removed bowel segment.

## Discussion

Mesenteric venous thrombosis (MVT), clinical presentation may vary from an asymptomatic condition to intestinal infarction and shock. Advances in imaging techniques have permitted the diagnosis of mesenteric venous thrombosis to be made before laparotomy is performed, but there is often a considerable delay in the diagnosis due to a low degree of suspicion on the part of clinicians and the unspecific clinical presentation [9]. Diagnosis during pregnancy.

becomes difficult due to confusion of symptoms. For this reason, it is more difficult to diagnose in pregnant women, there are delays in diagnosis and it can cause maternal

mortality as in our case. Most patients have thrombotic tendencies or risk factors. The predisposing factors are hypercoagulable states (protein C deficiency, protein S deficiency, antiphospholipid antibody, factor V Leiden mutation and antithrombin III deficiency), inflammatory state (appendicitis, diverticulitis, pancreatitis), portal hypertension, pregnancy, oral contraceptive use, abdominal injury and cancer [1-4]. Pregnancy itself is already a risk actor for hypercoagulopathy, and it requires us to be vigilant to think that MVT may develop even if it is not possible to have any other risk factor in our presented case. In most cases of acute MVT, the main symptom is abdominal pain. Other symptoms are nausea/vomiting, fever and abdominal distention. In our case, other symptoms were evident except for fever. However, these symptoms are closely related to the symptoms of pregnancy (especially hyperemesis gravidarum) in early weeks. Mesenteric ischemia and MVT should be kept in mind in pregnant women as delay in diagnosis significantly increases mortality and morbidity.

### Conclusion

Although pregnancy was not the primary cause of mesenteric ischemia and MVT, it did play a role in inducing the acute intestinal ischemia and necrosis. Pregnancy is itself a risk for hypercoagulability, this case indicates that pregnant patients should be counseled about the high risk of acute mesenteric ischemia and thrombosis.

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