

## Rare Presentation of Pregnancy with Deep Vein Thrombosis with a History of Coronavirus Disease-19 Infection

### ABSTRACT

Thrombo-embolic events have been reported in patients with COVID-19 disease. The COVID-19 pandemic had diverse effects on pregnant women globally. Concerns about the threat of thromboembolic events in the pro-coagulatory state of pregnancy when combined with COVID-19 infection, and the impact on maternal morbidity and mortality and neonatal outcome has led to the guidance providing increased use of anticoagulants in this group. We present a rare case of a pregnant patient with an acute deep vein thrombosis (DVT) of left lower limb related to past history of COVID-19 earlier in pregnancy.

**Key words:** Venous thromboembolism, Severe acute respiratory syndrome coronavirus-2, Coronavirus disease 2019, Polymerase chain reaction, Deep vein thrombosis, Tissue plasminogen activator, Intensive care unit, Disseminated intravascular coagulation, Computed tomography, Gestational age, Dilatation and Curettage, Body mass index, Lower segment cesarean section

### INTRODUCTION

After the severe acute respiratory syndrome (SARS) coronavirus disease (COVID-19) virus enters the body, it causes diverse signs and symptoms through viremia.<sup>[1]</sup> COVID-19 has been implicated in occurrences of cardiovascular and thromboembolic complications due to systemic inflammation and coagulopathy.<sup>[2-4]</sup> Then again, a few posted papers have argued that the signs and symptoms of extreme COVID-19 contamination are extra just like the pathophysiology and phenotype of complement-mediated thrombotic microangiopathy (TMA), rather than sepsis related coagulopathy or diffuse intravascular coagulation (DIC).<sup>[5]</sup> It's been suggested that COVID-19 predisposes to thrombotic pathological situations in both venous and the arterial circulation due to infection, platelet activation, endothelial dysfunction, and stasis.<sup>[4]</sup>

We record an atypical case regarding a 33-year-old pregnant lady patient with an acute deep vein thrombosis (DVT) of the left lower limb related to a history of COVID-19 in early pregnancy.

### CASE REPORT

A 33-year-old pregnant G5 P3L2 IUFD1 medical termination of pregnancy (MTP) 1 female patient 13.5 weeks gestational age by date came to the emergency room with acute pain and swelling of the left lower limb for 15 days.

She also noted severe pain during walking and even while standing.

She had a history of high-grade fever for 4 days and severe dry cough for 12 days, 2 months back and reverse transcription

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polymerase chain reaction (RT-PCR) for COVID-19 was positive. Patient's husband also tested positive for COVID 19 RT-PCR 2 months back.

Her medical history was negative for type 2 diabetes, hypertension, and hyperlipidemia. Her surgical history included previous 2 lower segment cesarean section.

No family history of hypercoagulable disease or thromboembolism was present. The patient had never smoked and denied drinking alcohol. The patient was on folic acid 5 mg once daily and domperidone as needed for pregnancy-related nausea and vomiting.

Her blood pressure was 140/80 mmHg, pulse rate was 116 beats/min, respiratory rate of 17/min, oximetry 98% on room air, and a temperature of 36.5°C (97.8°F).

His body mass index was 24.

On per abdominal examination, uterus was just palpable and relaxed. Fetal heart sounds present. Abdomen was soft and no guarding, tenderness, rigidity was elicited.

On local examination, there was left lower extremity redness and edema and calf tenderness. Homan's test was positive.

An electrocardiogram done in the emergency room showed sinus tachycardia at a rate of 110 bpm. A chest X-ray done with abdominal shield showed no acute cardiac and pulmonary findings.

Laboratory findings showed a white blood cell of 9400/dl, hemoglobin of 12.6 g/dL, and platelet count 213,000. The basic metabolic panel was within the normal range. D-dimer was elevated at 2281 ng/mL. A SARS-CoV-2 PCR test was negative.

The patient was admitted in general ward and was given leg elevation, and sequential pneumatic compression stockings were given and leg exercise was started. She was started on therapeutic dose of subcutaneous enoxaparin 40 mg twice daily.

Ultrasound of pelvis showed a septate/bicornuate uterus with Single live intrauterine pregnancy of 13.5 weeks.

Ultrasound of the left lower extremity showed a hypoechoic thrombus in external iliac vein, femoral, popliteal vein, post-tibial, and calf veins with 90–95% luminal obstruction. Veins were non-compressible and minimal blood flow seen; suggestive of the left lower limb DVT. Mild soft-tissue edema was seen in the left lower limb.

Since the patient was hemodynamically stable, tissue plasminogen activator administration was not considered by the treating physician.

Patients' symptoms improved with anticoagulation. Hypercoagulation panel did not show any other risk factor for thrombotic conditions.

The patient was counseled about the various complications and consequences of continuing with the pregnancy, and was also counseled about complications associated with MTP.

As the risk outweighed the benefits in continuing the pregnancy, with due consent from the patient and relatives, decision of MTP was taken.

Blood and blood products were reserved before induction. Induction was done with misoprostol 600 ug PV and 400 ug misoprostol repeated every 4 hourly for 4 times till she delivered. Fetoplacental weight was 150 g.

Twenty IU of oxytocin in one pint of ringer lactate was started slowly after delivery of the placenta. Evidence of retained products of conception was felt on internal examination, hence, dilatation and curettage done. Enoxaparin was restarted post 6 h of surgery and continued for 3 more days.

Serial complete blood count, platelet, and urine routine monitoring done as the patient was on enoxaparin.

The patient was observed in the hospital for 4 days and then was discharged home on tab. rivaroxaban 15 mg twice daily for 2 months.

Post-discharge, phone calls at day 15 and day 60 revealed that the patient was significantly responding to anticoagulants and had no recurrence of her symptoms related to DVT.

## DISCUSSION

Our case report described DVT in a patient who had recovered from COVID-19 2 months earlier without thromboembolism risk factors. After the patient came with DVT signs and symptoms, a Doppler ultrasonography of the lower leg revealed DVT. DVT can arise in individuals who have recovered from COVID-19, according to our case record findings, and they should be provided anticoagulant prophylaxis. Before the illness, the patient was ambulatory and had no history of leg injury. Many studies have shown that patients with COVID-19 had a greater mortality rate due to thromboembolism and organ failure.<sup>[6]</sup> There have been a few instances of DVT in COVID-19 patients. A patient with classic DVT symptoms such as swelling, redness, and pain was identified with COVID-19 in a research by Davoudi *et al.*<sup>[4]</sup> Leg swelling, tenderness, limited limb mobility, and redness were all signs of DVT in our patient, which was confirmed by USG color Doppler.

Although the specific etiology of post-COVID DVT is still unknown, one theory is that it targets the human body through the 2-angiotensin-converting enzyme.<sup>[7]</sup> Blood clotting difficulties will be exacerbated as a result of the virus's cytokine storms, which can lead to DVT.<sup>[8]</sup>

## CONCLUSION

Thromboembolic events are prevalent during and after recovery from COVID-19 infection, and they are linked to a poor prognosis. As a result, identifying DVT necessitates a high level of clinical suspicion and treatment with therapeutic dosages of LMWH.

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