



PORTAL VEIN THROMBOSIS IN PREGNANCY IN A PATIENT WHO HAD MILD INFECTION WITH COVID 19 VIRUS

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KEYWORDS :

BACKGROUND:

Portal vein thrombosis (PVT) is rare in pregnancy¹. The most common underlying causes are abdominal trauma, pancreatitis, myeloproliferative disorders, and hereditary deficiency of natural anticoagulants (protein C, S and anti-thrombin III)^{2,3,4}. We report a case of acute PVT in a pregnant woman with no history of thrombosis or evidence of coagulation disorder or thrombophilia who had infection with SARS-CoV-2 (COVID 19).

Case Report

30 years-old third gravida housewife attended the casualty department of SVS Hospital with the complaints of pain and tightness of abdomen for 7 days gradually worsening discomfort. She was 6-month amenorrhoeic. She gave birth at home a healthy male child 10 years ago. She had aborted a fetus of 5 months duration sixteen months ago. She did not use oral contraceptive pills nor smoked. There was no historical evidence of abdominal trauma or surgery, or any major or prolonged illness but for she was tested with RTPCR for covid 19 and treated at home 6 months ago without any gross consequences of illness. Her BP was 114/66 mm Hg and pulse was 120/min. vague tenderness was noted in abdomen as she did not allow proper full examination of abdomen which was distended. Her hemoglobin was 10.4 gm/dL, WBC was 12,400/mm³ with a neutrophil count of 82%, liver function tests and coagulation studies were normal. Blood sugar was 108 mg%, blood urea 52 mg% and serum creatinine 1.5 mg/dL. Urgent ultrasonography revealed a well-defined homogenous hyperechoic area in the spleno-mesenteric confluence and right branch of the portal vein, which was suggestive of a fresh venous thrombosis (Figure 1). Spleen was found to be enlarged below the costal margin and there was a gravid uterus of 18 weeks. Further tests done – VDRL test was non-reactive, HIV and HbSAg were negative. Thrombophilia profile like antithrombin III, Factors VII and VIII, Protein C and S were within normal range while Anti-Phospholipid antibodies and Lupus anticoagulant were negative. Patient was started on intravenous heparin 5000units bolus followed by infusion for 24hrs. One week into her treatment, the clot had become heterogenous and less echoic. Three weeks later, there was complete recanalization of portal vein system. Subsequently, shifted to low molecular heparin till delivery. Patient pregnancy progressed normally, she had NVD at 39 weeks, shifted to warfarin after delivery.

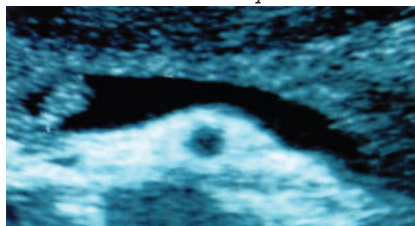


Figure 1: Transverse US scan of the splenic vein and splenomesenteric confluence: well-defined homogenous

hyperechoic oval-shaped formation located in the splenomesenteric confluence and representing a fresh clot. Splenic vein looks prominent upstream of the thrombosis.

DISCUSSION

In the present situation our patient did not have any evidence of coagulation disorder or evidence of thrombophilia but for mild stage of COVID 19 disease which was managed at home uneventfully. COVID 19 is well known for thrombo-embolic episodes many a times a fatal event reported in literature^{7,8}. It can mainly cause, disseminated intravascular coagulation (DIC), VTE, deep vein thrombosis (DVT), portal vein thrombosis (PVT), and other coagulopathies (8). But this patient had probably mild symptoms and signs of novel corona virus infection. Kheyrandish et al searched extensively in a meta-analysis and found 40 cases of portal venous thrombosis of which only 34 were extensively investigated and of these, 20 case had at least one more co-morbidity⁸. The hypercoagulable state of pregnancy predisposes to this condition^{1,5,9-11}.

CONCLUSION:

Although portal vein thrombosis is a rare complication of pregnancy, this pathology should be suspected in a patient with an acute attack of abdominal pain with fever to avoid life-threatening conditions like mesenteric infarction. Because of its ease of use, lower cost, easier availability, ultrasonography with colour doppler is the modality of choice for the detection and follow-up of acute PVT, especially in pregnancy. Timely starting of anti-coagulation with heparin and/ or warfarin or direct anti-thrombin agents is the line of action in treating acute PVT. Infection with COVID 19 may be a coincidental finding rather than causal.

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Ethical approval: The study was approved by the institutional ethics committee

REFERENCES

- Goodrich MA, James EM, Baldus WP, Lomboy CT, Harms RW. Portal vein thrombosis associated with pregnancy: a case report. *J Reprod Med* 1993; 38: 969-72
- Denninger MH, Chait Y, Casadevall N, Hillaire S, Guillen MC, Bezeaud A, et al. Cause of portal or hepatic venous thrombosis in adults: the role of multiple concurrent factors. *Hepatology* 2000; 31:587-91.
- Fisher NC, Wilde JT, Roper J, Elias E. Deficiency of natural anticoagulant proteins C, S and antithrombin in portal vein thrombosis: a secondary phenomenon? *Gut* 2000; 46: 534-9.
- Di-Carlo I, Lombardo R, Di Raimondo F, Petrillo G, Puleo S. Acute pre-hepatic portal thrombosis: diagnosis and therapy. *Minerva Chir* 1997; 52: 955-8.
- Dasari P, Balusamy S. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2012-008325

6. Yun Dan Kang, Portal Vein Thrombosis during Pregnancy – a case report; 2015 Korean J Perinatol; 26(3): 245-9.
7. Levi M, Thachil J, Iba T, Levy JH. Coagulation abnormalities and thrombosis in patients with COVID-19. *Lancet Haematol.* (2020) 7: e438. doi: 10.1016/S2352-3026(20)30145-9
8. Kheyrandish S, Rastgar A, Arab-Zozani M and Sarah GA (2021); Portal Vein Thrombosis Might Develop by COVID-19 Infection or Vaccination: A Systematic Review of Case-Report Studies. *Front. Med.* 8:794599. doi: 10.3389/fmed.2021.794599
9. Goodrich MA, James EM, Baldus WP, et al. Portal vein thrombosis associated with pregnancy. A case report. *J Reprod Med* 1993;38:969–72.
10. Jouini S, Fakunle YM, Azazy A. Portal vein thrombosis in pregnancy: case report and review of the literature. *Ann Saudi Med* 2002; 22: 227–9.
11. Aggarwal N, Chopra S, Raveendran A, et al. Extra hepatic portal vein obstruction and pregnancy outcome: largest reported experience. *J Obstet Gynaecol Res* 2011; 37: 575–80.