

Antenatal Bilateral Renal Vein Thrombosis with Combined Protein S And C Deficiency: A Case Report

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Abstract:

Introduction: The second most common thrombosis in infants is renal vein thrombosis (RVT). We'll take a look at a pregnant situation. A discussion of the best treatment options for bilateral RVT is included. A male infant was admitted to the Center for Maternity and Neonatology's Neonatal Intensive Care Unit. Tunis (CMNT) is a drug that is used to treat breathing problems and severe hematuria. RVT usually affects newborns and infants as a result of extreme dehydration, which manifests as a dry mouth, scanty urine, and a lack of skin turgidity.

Presenting complaints and investigation: The newborn woman was sent to Sawangi Acharya Vinoba Bhave Village Hospital with severe Indigestion, severe diarrhea, weight loss, and starvation are some of the symptoms.

The main diagnosis, therapeutics interventions and outcomes: A patient with a case of antenatal bilateral renal vein thrombosis with combined protein s and c deficiency. After physical examination and investigation, doctor was detected a case of renal vein thrombosis.

Nursing perspectives: DNS and RL were used for fluid replacement. Hourly check vital signs and BP. I kept track of the patient's intake and output and make sure she had enough rest and sleep. Medication was given as prescribed by the doctor. Iv fluid should be kept under constant observation.

Conclusion : Patient was admitted in Acharya Vinoba Bhave Rural Hospital Sawangi (M), Wardha and was diagnosed as renal vein thrombosis and got appropriate treatment and her condition is improved.

Keywords: Neonates, Renal vein thrombosis, Doppler anticoagulant heparin, antenatal bilateral renal vein thrombosis with concomitant protein s and c deficiency.

Background:

The second most common thrombosis in newborns is renal vein thrombosis (RVT). A prenatal case is presented. We discuss the best treatment options for bilateral RVT. A male infant was admitted to the Center for Maternity and Neonatology's Neonatal Intensive Care Unit.¹

Tunis (CMNT) is a medication used to treat respiratory distress and excessive hematuria. The diagnosis of bilateral RVT was confirmed by Doppler renal ultrasonography after initial Laboratory tests showed renal failure². A combination of protein C and S deficiency was found in the thrombosis test. Begin thrombolysis

with tissue plasmin, and then use unfractionated heparin for anticoagulation. Neonatal renal vein thrombosis is a rare disease with high mortality. They are related to more severe clinical manifestations. There is currently no agreement on governance.³

RVT is caused by the same process as other forms of blood clots in other regions of the body. Rudolf Virchow was the first to define the physiological process of venous thrombosis (blood clot) using the Virchow triangle of three linked factors: vascular damage (endothelial damage), reduced blood flow, and enhanced clotting (thrombotic propensity) or hypercoagulable condition. ⁴A blood clot can be caused by any of these causes, but most blood clots are caused by a mixture of all of them. Renal vein thrombosis can produce reduced urine output or renal function, which may be the only visible signs. Hypercoagulable condition, renal cell carcinoma invasion, kidney transplantation, Bechet syndrome, antiphospholipid antibody syndrome, or severe back or abdominal traumas are some of the less prevalent reasons.⁵

Patient Information:

Demographic details:

A newborn female was admitted in Acharya Vinoba Bhave Rural Hospital with a major complaint of digestive tract, which can lead to stomach discomfort, swelling, proteinuria, weight loss, and malnutrition, the doctor identified a case of renal vein thrombosis following a physical examination and investigation.

Presentation:

Past medical and surgical history, and relevant outcomes from interventions:

Patient had no any medical history in past. No any surgery done in past. History collection is done including past medical history, past surgical history, family history, antenatal history of mother. Biopsy is done to diagnose the abnormality of the patient.⁶

Other histories:(family history ,habits)

- **Family history:** She belonged to nuclear family. In patient's family no any hereditary history like diabetes, asthma, hypertension etc.
- **Habits:** Patient had no any bad habit like smoking, tobacco chewing etc. My patient like to watch TV, reading newspaper.

Clinical findings: The patient was not conscious and well oriented to date, time, and place. Her body build was moderate and she had maintained good personal hygiene. Her glucose level is normal 140mg/dl, pelvic pain was present. Patient blood count done and findings are normal, the values of RBC, WBC, platelets are normal.

Timeline:

She took the treatment in Acharya Vinoba Bhave Rural Hospital. Now she is taking anticoagulants and thrombolytic medication as per doctor's order. Nursing care is given as per patient need.

Diagnostic Assessments:

Diagnostic methods:

On the basis of patients history, physical examination, vaginal examination and USG and other investigation the patient CBC ,WBC- 12,600 cumm ,RBC- 4.03cumm.

Diagnostic challenges:

No any challenges during diagnostic evaluation.

Diagnostic reasoning:

Patient's Ultrasonography is done. CT angiography is done. Complete blood count is checked. Biopsy is rule out to find the abnormality. The manifestation of renal vein thrombosis on excretory urography, inferior vena cavography, selected renal phlebography, and renal angiography are examined.

Prognostic characteristics:

Renal venous thrombosis is most common in the newborn period, and the risk drops dramatically during the first year of life. It can cause hematuria, proteinuria, and other symptoms, as well as a clinically palpable enlargement of the kidney.

Therapeutic Interventions:

Pre-intervention considerations:

Present case took the medical management with renal vein thrombosis anticoagulants medication, thrombolytic medication.

Give preoperative care including patient preparation ,informed consent, and all investigation should be conducted before the ongoing procedure. Monitor the patient allergic reaction to latex. ⁷ Maintain the patient blood pressure at normal level. Monitor patient vital signs temperature, pulse and respiration of the patient. Provide post operative care to the patient according to the patient conditions, maintain intake output of the patient. Give medication as per doctor order at right time and doses. Provide physical comfort to the patient and give psychological support .⁸

Intervention details:

To reduce proteinuria, hematuria medication given as per doctor order. During labor, an amnio-infusion should be given in intrauterine catheter.

Changes:

No any changes done in treatment. Patient's Vital signs monitored daily, Checked patient condition. Patient expression is good .

Nursing Perspectives:

Iv fluid was provided to maintain the fluid and electrolyte balance. Monitored fetal heart rate and Vital sign per hourly. Administered fluid replacement ie. DNS and RL. Monitor vital signs and Check BP per hourly. Maintained intake and output chart and provided adequate rest and sleep to the patient. Administered medications according to doctor's order. Monitor iv fluid .Maintained intake and output record. Give the drugs as ordered by the doctors.

Follow up and outcome:

Doctor advised the patient for routine checkup and take regular medication. Take a complete rest up to 2 weeks. Monitor intravenous infusions. Daily dressing should be done. Advice the patient for taking healthy and nutritious diet contains protein and carbohydrate .

Discussion :

The doctor classified this case as prenatal bilateral renal vein thrombosis with deficiency of protein s and c diagnose after a physical examination and investigation. He took treatment of Crohns disease and antipyretic drug . Patient condition was stable, pain was reduced . was at normal level ie. 250,000 cells/mm.

Prenatal bilateral renal vein thrombosis with combined protein s and c deficiency and DHF have different clinical symptoms than antenatal bilateral renal vein thrombosis with combined protein s and c deficiency and DHF. DHF is becoming more common across the world, and clinicians should be mindful of uncommon signs including muscular hematomas.

Renal vein thrombosis (NVT) in newborns is linked to a number of potentially dangerous medical problems. Almost 80% of RVT instances develop within the first month of life. Suffocation during birth/fetal distress in the uterus is the risk factor for RVT in diabetic babies. ⁹Mother, coagulopathy, and volume decrease. Vascular injury, reduced blood flow, increased blood viscosity, excessive osmotic pressure, or a potential predisposition to thrombosis can all lead to thrombosis. Gross hematuria, flank development (unilateral or bilateral kidney enlargement), and thrombocytopenia are the typical trio of RVT. Hematuria, proteinuria, polycythemia, hemolytic anaemia, thrombocytopenia, and potential acute kidney damage can all be detected with laboratory testing. It's important to figure out what's causing your hypercoagulability. In the afflicted kidney, Doppler ultrasonography may reveal enlargement, echogenicity, and lack of cortical medulla differentiation. The gold standard for diagnosing RVT is still renal venography. Unilateral renal vein thrombosis affects more than 70% of patients. The left side of the body is more prevalent (63.6 percent). The inferior vena cava is affected by thrombus. For conservative treatment, some patients use supportive therapy. Unfractionated heparin and low molecular weight heparin were utilized by 21.6 percent and 20.7 percent of patients undergoing anticoagulation treatment, respectively.¹⁰Tunis (CMNT) is a medication used to treat respiratory distress and excessive hematuria. The diagnosis of bilateral RVT was confirmed by Doppler renal ultrasonography after initial Laboratory tests showed renal failure. A combination of protein C and S deficiency was found in the thrombosis test. Begin thrombolysis with tissue plasmin, and then use unfractionated heparin for anticoagulation. Neonatal renal vein thrombosis have high mortality rate as compared to other disease condition ¹⁰⁻¹². Other related studies were reviewed¹³⁻¹⁵. The pathogenetic significance of nephrotic syndrome in renal vein thrombosis was clearly shown by establishing the sequence of nephrotic syndrome leading to renal vein thrombosis. The pathophysiology of renal vein thrombosis and its explanations are also examined. Pleuritic pain in a patient with systemic lupus erythematosus and nephrotic syndrome should raise the likelihood of renal vein thrombosis and pulmonary embolism, according to the American College of Physicians. My patients had a started course throughout 12 to 48 months. Follow-up after receiving an accurate diagnosis and anticoagulant medication. Despite the fact that we did not have the opportunity to document the presence of antiphospholipid or anticardiolipin antibodies, none of our patients had a history of thrombosis or pretransplant disease associated with an increased risk of thrombosis, allowing us to rule out the possibility of venous complications.

Conclusion:

Vein thrombosis is a problem that can happen to newborns with a variety of risk factors. The kidneys that are impacted have a poor prognosis. In the past, anticoagulant and fibrinolytic medicines were marketed with anecdotal success in some cases. Prospective controlled trials, on the other hand, are still missing, and there are currently no evidence-based guidelines for the treatment of infants with renal vein thrombosis. We conducted a retrospective review of all available medical literature. As a result, individuals with renal vein thrombosis due to membranous glomerulonephritis should be treated solely with anticoagulants, as intercurrent renal vein thrombosis appears to have no effect on the long-term prognosis of this disease. Thrombectomy should be avoided in patients who have developed acute renal failure as a result of acute renal vein thrombosis, and thrombolysis should be considered only in those who have developed acute renal failure as a result of acute renal vein thrombosis.

References:

1. Gambat K, Moudgil A. Optimization of bone health in children before and after renal transplantation: current perspectives and future directions. *Frontiers in pediatrics*. 2014 Feb 24;2:13.
2. Gaur M, Sethi J, Singhal M. Spontaneous renal vein thrombosis: a rare cause of acute flank pain. *BMJ Case Reports*. 2021 Jul 1;14(7).
3. Ageno W. International Registry on the Diagnosis and Treatment of Inferior Vena Cava Thrombosis.
4. Vinay Badhwar M. Meta-Analysis Comparing the Frequency of Stroke After Transcatheter Versus Surgical Aortic Valve Replacement. *Coronary artery disease*.;51(51.1):0-94.
5. Vega RM, Avva U. Pediatric dehydration. *StatPearls [Internet]*. 2020 Aug 8.
6. TUNAY DL, GÜNEŞ Y. Pediatrik Nöroanestezi Sıvı Tedavisi. *Çukurova Anestezi ve Cerrahi Bilimler Dergisi*. 2019;2(2):123-40.
7. Bayomi AM, Abdel Kareem H, Zaghoul ME. Evaluation of Vomiting Among Children Admitted to Al-Azhar University Hospital in Assiut. *The Egyptian Journal of Hospital Medicine*. 2021 Apr 1;83(1):964-8.
8. Sharma AP, Devana SK, Tyagi S, Singh SK. Isolated renal vein and inferior vena cava thrombosis in a young man with ulcerative colitis: diagnostic challenges and lessons learned. *BMJ Case Reports CP*. 2020 Dec 1;13(12):e238174.
9. Ghaly P, Iliopoulos J, Ahmad M. Acute bilateral renal vein thrombosis diagnosis and management: a case report. *Journal of Surgical Case Reports*. 2020 Aug;2020(8):rjaa238.
10. Agrawal, A., Keche, H.A., Adakane, R., 2019. A study of accessory renal arteries and its clinical implications. *International Journal of Pharmaceutical Research* 11, 1141–1144. <https://doi.org/10.31838/ijpr/2019.11.01.200>
11. Alagh, A.R., Shukla, S., Acharya, S., Vagha, S., Palsodkar, P., 2019. Assessment of renal function in obese individuals. *International Journal of Pharmaceutical Research* 11, 1179–1186. <https://doi.org/10.31838/ijpr/2019.11.01.209>
12. Hiwale, K.M., Sahu, P., Vagha, S., 2020d. Case report-primary renal lymphoma: A rare entity. *Indian Journal of Forensic Medicine and Toxicology* 14, 6714–6716. <https://doi.org/10.37506/ijfmt.v14i4.12669>
13. Pattabiraman, S., Phatak, S.V., Patwa, P.A., Marfani, G., 2020. Bilateral sporadic renal angiomyolipoma .ultrasonography and computed tomography imaging. *Journal of Datta Meghe Institute of Medical Sciences University* 15, 134–135. https://doi.org/10.4103/jdmimsu.jdmimsu_199_19
14. Roth, G.A., Mensah, G.A., Johnson, C.O., Addolorato, Group, G.-N.-J.G.B. of C.D.W., 2020. Global Burden of Cardiovascular Diseases and Risk Factors, 1990-2019: Update From the GBD 2019

Study. *Journal of the American College of Cardiology* 76, 2982–3021. <https://doi.org/10.1016/j.jacc.2020.11.010>

15. Abbafati, C., Abbas, K.M., Abbasi-Kangevari, M., 2020a. Global burden of 369 diseases and injuries in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. *The Lancet* 396, 1204–1222. [https://doi.org/10.1016/S0140-6736\(20\)30925-9](https://doi.org/10.1016/S0140-6736(20)30925-9)