

## Rare Case of Pregnancy with Nephrotic Syndrome Complicated with IVC and Renal Vein Thrombosis

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**ABSTRACT :** Pregnancy complicated with nephrotic syndrome due to membranous glomerulonephritis is rare. It aggravates the hypercoagulable state, leading to wide-spread thrombosis. Sites like IVC and renal vein are unusual. Risk for thromboembolism, compromised renal function is increased. Maternal symptoms like massive pedal edema are early and severe. High index of suspicion is required for timely management. Renal biopsy confirms the diagnosis. Frequent follow up with renal function tests, including 24hour urinary protein assay and Super speciality consultation is part of management. Anti-coagulants like Low Molecular Weight Heparin form mainstay of treatment. Steroid therapy is calibrated to 24 urine protein excretion. Close antepartum fetal monitoring to detect IUGR early is mandatory. Spontaneous labor at term is awaited. Caesarean section is done purely for obstetric indications. Post-partum most cases undergo spontaneous resolution. Long term follow up should be done with 24 hour urine protein. Those that don't resolve may require prolonged steroids.

**KEYWORDS -** Nephrotic syndrome, Pregnancy, Thrombosis

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### I. INTRODUCTION

Thrombosis occurs in hypercoagulable states like pregnancy and nephrotic syndrome and their coexistence is rare, with the incidence being 0.012 to 0.025 % [1]. In such cases rapid deterioration of renal function or pulmonary embolism may follow. The symptoms of thrombosis in a pregnancy with nephrotic syndrome are obscure and a high degree of suspicion is required for diagnosis and treatment [2]. We present a rare case of thrombosis in IVC and renal vein in a pregnancy complicated with nephrotic syndrome.

### II. CASE REPORT

Mrs. XYZ, 23 yrs G2A1 with 4 months pregnancy complained of bilateral extensive pedal edema upto upper thigh, preceded by fever with rash 2 months back. There was no other significant history. Thorough investigation unravelled low serum albumin (2 gm%), massive proteinuria (4078 mg/24 hrs), hypothyroidism and deranged lipid profile. Ultrasonography revealed bulky right kidney, moderate ascites and right pleural effusion. Doppler showed partial thrombosis of right renal vein extending into supra renal IVC. No e/o DVT in both limbs. MRI confirmed THROMBOSIS [Fig A] [Fig B]. Serum C3, C4, IgG antiphospholipid antibodies, IgM cardiolipin antibodies, ANA, anti ds-DNA, total serum IgG and IgA levels were normal. Renal biopsy showed membranous glomerulonephritis on immunofluorescence and electron microscopy [Fig C]. After superspeciality consultation, Eltroxin, low molecular weight heparin, protein supplementation and antibiotics were started. Steroids were deferred. After 4 weeks patient's edema and proteinuria reduced (1500 mg). Repeat imaging showed complete resolution of thrombus. Close vigilance was kept. Antepartum fetal surveillance showed IUGR. Blood pressure and renal function remained normal. Patient pulled on till 37 weeks, went into spontaneous labour. However caesarean was needed for fetal distress. Baby required NICU care for low birth weight (1.1 kg). Post delivery, patient was restarted on LMW heparin and steroids were deferred. She was discharged after weight gain of baby with advice to follow-up regularly

### III. DISCUSSION

Nephrotic syndrome in pregnancy is rare due to its relative infrequency during childbearing period and obstacles to conception caused by any serious chronic illness [1].

Nephrotic syndrome is associated with hypercoagulability due to increased clotting factors V, VII, VIII, fibrinogen and 2-antiplasmin and depression of factors IX, XII, antithrombin III and plasminogen. [3][4]. In nephrotic patients, membranous glomerulonephritis carries the highest incidence of renal vein thrombosis [2]. Pregnancy is associated with increased fibrinogen, factors VII, VIII, X and decreased fibrinolytic activity. Fetal compression of IVC and decrease in venous flow also predisposes to venous thrombosis [5]. Ultrasonography can be used as initial diagnostic modality and shows presence of thrombus and renal pathology which can be confirmed on MRI [2]. Renal biopsy is required for histopathologic diagnosis. Anticoagulant therapy is the mandatory treatment. Warfarin is contraindicated in pregnancy. Low molecular weight heparin has longer half-life, better bio-availability, doesn't need laboratory monitoring and doesn't cross placental barrier [6]. It's effectiveness in our patient is demonstrated by rapid improvement in oedema and disappearance of thrombus in imaging studies. Treatment with steroids for nephrotic syndrome in pregnancy is associated with complications like infections, PROM and IUGR [7]. The safety of IVC filters in pregnancy is uncertain as limited data is available [8]. Prognosis depends on adequacy of renal function and absence of hypertension. The fetal prognosis is found to be poor with increased perinatal mortality and IUGR [9]. Renal function, proteinuria and electrolytes have to be monitored at regular intervals. To conclude, early diagnosis, comprehensive therapy and timely pregnancy termination decreases the incidence of fetomaternal complications and improves outcome.

#### 4. FIGURES

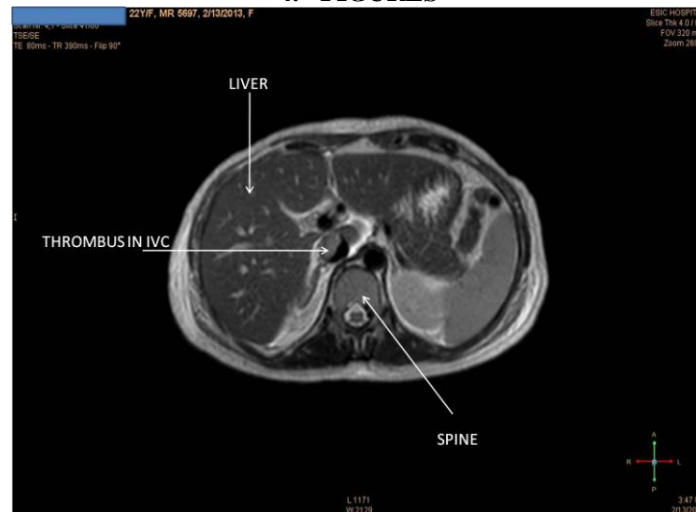


Figure A: MRI showing thrombus in IVC.

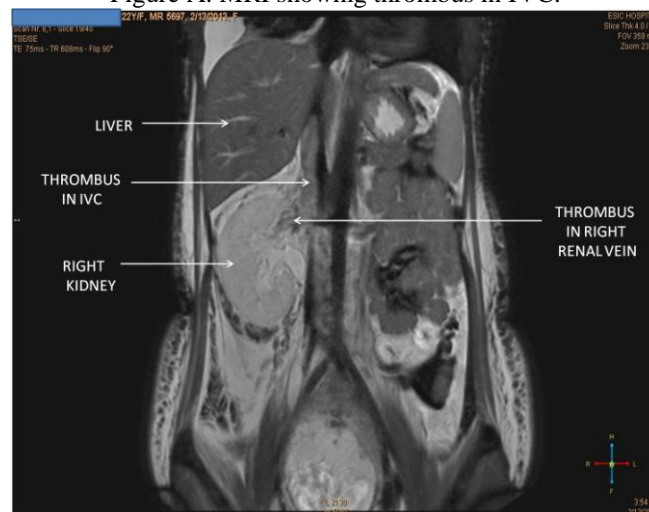


Figure B: MRI (Coronal view) showing thrombus in Inferior Vena Cava and right Renal Vein.

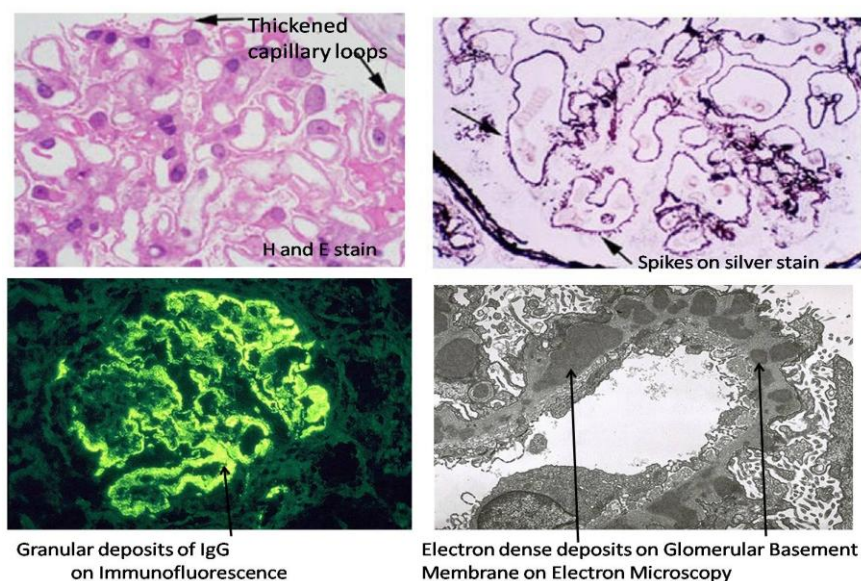


Figure C: Histopathology findings of Nephrotic Syndrome.

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