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Case Report

A rare case report on complications in pregnancy with systemic lupus erythematosus in a post-renal transplant patient

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ABSTRACT

To preview the feto-maternal outcome in post-renal transplant pregnant women with systemic lupus erythematosus (SLE). To distinguish preeclampsia from hypertension in renal transplant recipients as diagnosis is not always straightforward and all differentials need a thorough evaluation. Hypertension is a prevalent issue among kidney transplant recipients, with reported incidence rates ranging from 52% to 69%. Additionally, the occurrence of pre-eclampsia in renal transplant recipients falls within the range of 24% to 38%, demonstrating a significantly elevated risk compared to the 4-5% incidence rate seen in the general population. A 29-year-old female para 1 IUFD 1 abortion 1, in a known case of SLE with hypothyroidism with lupus nephritis with post renal transplant status with thrombocytopenia with preeclampsia with day 7 of emergency LSCS done in view of non-progress of labor with intrauterine fetal demise with abruptio placenta referred in view of query SLE flare or severe preeclamptic features with rectus sheath hematoma. Renal transplant restores fertility; thus, pregnancy requires careful planning and affected women should be managed in tertiary care obstetrics centers working in tight multidisciplinary cooperation with transplant physicians.

Keywords: SLE, Renal transplant, Immunosuppressive medication, Pre-eclampsia, Hypertension

INTRODUCTION

Kidney transplantation represents the most promising option for women facing end-stage renal disease who aspire to conceive. However, pregnancy for a woman who has undergone a kidney transplant remains a complex endeavour. This complexity arises from the potential side effects of immunosuppressive drugs, the possibility of a decline in the transplanted kidney's function, and the heightened risk of maternal complications like preeclampsia and hypertension. Furthermore, there is a raised likelihood of adverse fetal outcomes such as premature birth, low birth weight, and infants being born small for their gestational age.[1]

Hypertension is a prevalent issue among kidney transplant recipients, with reported incidence rates ranging from 52% to 69%. Additionally, the occurrence of pre-eclampsia in renal transplant recipients falls within the range of 24% to 38%, demonstrating a significantly elevated risk compared to the 4-5% incidence rate seen in the general population.[2] Distinguishing between preeclampsia and hypertension in renal transplant recipients poses a challenge due to several factors. One key factor is the frequent elevation of blood pressure after 20 weeks in women who were previously normotensive. Additionally, the exacerbation of preexisting proteinuria due to hyperfiltration complicates the differentiation process.[3]

This case report outlines a rare and interesting case of pregnancy with SLE in a post-renal transplant patient with post-natal eclampsia mimicking symptoms of the flare of SLE managed by a multidisciplinary approach.

CASE REPORT

A 29-year-old female para 1 IUFD 1 abortion 1, in a known case of SLE with hypothyroidism with lupus nephritis with post renal transplant status with thrombocytopenia with preeclampsia with day 7 of emergency LSCS done in view of non-progress of labor with intrauterine fetal demise with abruptio placenta referred in view of query SLE flare or severe preeclamptic features with rectus sheath hematoma.

The patient had a haemoglobin of 5 g/dl and platelets of 66,000 cumm pre-operatively and was transfused 4 pints PRC and 2 pints SDP in the perioperative period. Anemia often occurs as a common consequence of chronic nephropathy due to a decrease in the production of erythropoietin. In the postoperative period, the patient developed haematuria, bicytopenia, and bilious vomiting with a palpable mass in the right paramedian region beside the suture line associated with old collected blood oozing from the suture site with USG s/o rectus sheath hematoma measuring 13×12×13 cm (volume 237 cc). The patient also had hypertension for which she was on tablet amlodipine 5 mg OD, with a creatinine of 2.3 mg/dl and UPCR of 7.99, and a 24-hour urinary protein excretion of 1560 mg/day suggestive of pre-eclampsia. The patient was on tab. thyronom 75 ug OD, cap. tacrolimus 5 mg OD, tab. hydroxychloroquine 200 mg OD, tab. azathioprine 50 mg BD, inj. Effcorlin 50 mg QID and injectable antibiotics. The patient had an episode of generalized tonic-clonic seizure for which she was started on inj. levipril 500 mg BD and a CT brain and MRI were done to rule out underlying eclampsia leading to posterior reversible encephalopathy syndrome (PRES). The eclampsia was managed by a multidisciplinary approach and hypertension was brought under control by optimization of the dosage of anti-hypertensives which also caused resolution of the features of end-organ damage as suggested by creatinine of 1.3 from a previous value of 2.7 and a UPCR of 2.99, the patient was given intravenous albumin therapy for 3 days with diuresis for the same. Table 1 shows the investigations of the patient.

Table 1: Blood investigations.

Variables	On admission	In ward	On discharge
Hb/TLC/PLT	7.2/11,500/1,06,000	8.8/9,100/1,42,000	10/9,100/1,72,000
PT/INR	22.5/2	15.7/1.55	15.6/1.33
aPTT	40.4	29	25.2
Fibrinogen	711	531	320
D-dimer	5.09	7.7	3.02
T. bilirubin	0.7	0.8	0.6
SGOT/SGPT	20/15	20/13	28/18
T. protein	2.6	3.9	4.7
BUN/creatinine	43/2.7	36/2.3	28/1.7
Na/K	139/3.6	136/3.2	138/3.8
RBS	72	80	98
UPCR	7.99		2.99

Distinguishing between preeclampsia and lupus nephritis/lupus flare can be challenging because of overlapping symptoms. Complement levels and anti-ds DNA titers were done to rule out acute SLE flare; a C3 level of 102 (90-180), a C4 level of 44 (10-40), and anti-ds DNA titres of 10 confirmed the absence of SLE flare.

Patient was transfused with 5 pints of leuco-depleted PRC and 6 pints of FFP for optimization of haematological parameters.

Daily dressing for the soakage due to oozing of old collected blood from the suture site due to underlying rectus sheath hematoma was done and weekly USG was done to look for its resolution.

DISCUSSION

If serum creatinine is less than 1.5 g/dl and protein excretion is less than 500 mg per 24 hours, the graft function is deemed to be at its best. Before conception, hypertension is typical in these patients. Chronic usage of corticosteroids and enhanced renin production by the native kidney are both associated with a higher incidence of hypertension. Diagnosing superimposed preeclampsia poses challenges, primarily because of the coexistence of pre-existing hypertension and proteinuria.[4]

When lupus nephritis flares up during pregnancy, it can mimic preeclampsia and manifest as worsening renal function, rising proteinuria, hypertension, and thrombocytopenia. Preeclampsia and active lupus nephritis can potentially develop simultaneously. SLE and preeclampsia can occasionally be distinguished by the presence of lupus activity in other organs.

Although it is widely acknowledged that SLE illness flares are more common during pregnancy and the postpartum period, rates have been reported that range from 25 to 60%.[5] The diverse study designs, patient, and control groups, as well as various definitions of flares employed in the studies, may be partly to blame for this heterogeneity.

As a point of comparison, the background rate of SLE flare is almost 30% annually.

Pregnancy is related to a higher incidence of SLE flare-ups for the reasons listed below: History of lupus nephritis, active illness in the six months preceding conception, discontinuation of hydroxychloroquine (HCQ) or another drug and primigravida.

SLE flare-ups may occur in some women during the postpartum period. Disease flare-ups are more likely to occur in the postpartum period in women with the active disease before conception and those who have severe end-organ damage. Postpartum monitoring of disease activity is therefore necessary. One month after a straightforward delivery, following laboratory tests are advised: Renal function if the urine analysis shows an abnormal urine protein/urine creatinine ratio, CBC, anti-ds-DNA titres and complement (CH50, or C3 and C4).

Preeclampsia can be distinguished from nephritis or a lupus flare using laboratory tests, but this is not always helpful: Preeclampsia typically presents with proteinuria as its primary symptom, whereas lupus nephritis often exhibits proteinuria alongside an active urine sediment, which may include the presence of red and white blood cells and cellular casts. Complement levels in preeclampsia are typically normal or elevated, although exceptions can occur. In contrast, flares of SLE tend to coincide with low or declining complement levels and elevated anti-dsDNA antibody titers.[6]

Discerning preeclampsia from lupus nephritis becomes more distinct when considering additional clinical markers. Preeclampsia is characterized by more pronounced thrombocytopenia, elevated serum levels of liver enzymes, and an elevated or increasing uric acid level compared to lupus nephritis. Women with SLE may face various complications during pregnancy, including conditions such as antiphospholipid antibodies (aPLs), thrombotic thrombocytopenic purpura, and immune thrombocytopenia, with thrombocytopenia being one of these potential complications.

Before 20 weeks of pregnancy, start of these converging symptoms is more consistent with lupus nephritis. Renal biopsy can assist distinguish between the two disorders, but its use in pregnant women is constrained by the higher risk of complications.

CONCLUSION

Renal transplantation can restore fertility, but planning for pregnancy in such cases is essential. Primary care physicians and nephrologists should expand their efforts to address menstrual and reproductive issues in women who have undergone renal transplants. Women of childbearing age who wish to explore the possibility of pregnancy should receive comprehensive information and counselling from transplant team. Following outlines criteria that renal transplant recipients should consider when contemplating pregnancy: Wait at least 6 months after transplantation. Maintain stable allograft function with a creatinine level of less than 1.4 mg/dL. Avoid recent episodes of acute rejection. Maintain blood pressure within the range of 140/90 mmHg. Have little to no proteinuria, typically not exceeding 500 mg/24 hours. Prednisone dosage should be limited to 15 mg/day. Azathioprine should be administered at a dosage of 2 mg/kg/day and discontinue mycophenolate mofetil and sirolimus at least 6 weeks before attempting conception. Women facing these challenges should receive care at specialized obstetrics centres at the tertiary level. These centres should operate in close collaboration with transplant physicians, including nephrologists, diabetologists, and neonatologists. This multidisciplinary approach can lead to enhanced care and better outcomes for both the mothers and their children.

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