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NEPHROTIC SYNDROME IN PREGNANT DIABETIC WOMEN: MATERNAL AND PERINATAL OUTCOMES AT A TERTIARY CENTER

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Background and Aims: Management of pregnant women with diabetic kidney disease and nephrotic range proteinuria or nephrotic syndrome constitute a challenge to clinicians. Maternal and perinatal outcomes, especially in patients with chronic kidney disease, remain poor. The authors describe the multidisciplinary approach and the outcomes of diabetic pregnant patients with nephrotic range proteinuria.

Method: Retrospective observational study in which the authors reviewed maternal, obstetric and perinatal outcomes in pregnant diabetic woman with nephrotic range proteinuria or nephrotic syndrome surveilled at our nephro-obstetric unit from 2011 until 2021.

Results: We evaluated 7 gestations in 6 patients. Mean age was 31.7±4.7 years (26-38), 5 were caucasian and 1 was black African, and 4 were nulliparas. They all had type 1 diabetes, with mean disease diagnosis at 9.9±5.9 years of age. All patients had chronic hypertension and 5/6 patients had poor glycemic control before pregnancy (mean HbA1c of 11.9%). Mean baseline SCr was 1.1±0.5 mg/dl (0.51-2.8) and mean baseline proteinuria was 3697.2±2301.4 mg/day (75-6326), with 1/1/3/2 patients being on CKD stage 1/2/3/4, before pregnancy, respectively. Exposure to teratogenic therapy during the first trimester occurred in 5/7 gestations with a mean exposure of 7.4 ± 3.1 weeks. Proteinuria increased in all patients and renal function deteriorated in 5/7 gestations (mean SCr of 2.5±1.2; 0.67-4.07 mg/dl) in association with pre-eclampsia in 2 patients and with pregnancy hyperfiltration and nephrotic syndrome in all gestations. One patient started dialysis at week 28, due to urea levels >100mg/dL. Partial renal recovery occurred in 2 patients. To date, 3/6 patients initiated PD 15 months (6-29 months) after gestation, 1 of which received a kidney-pancreas transplant. Hypertension aggravated in 6 gestations. Aspirin and low molecular weight heparin were initiated in 6 gestations and they were all treated with furosemide to control volume overload. Regarding fetal outcomes, severe fetal growth restriction was responsible for 1 still birth and 1 medical termination of pregnancy, both at 24 weeks. Cesarean was performed in 4/5 gestations (one is still undergoing) due to pre-eclampsia, renal function deterioration and/or fetal growth restriction. Mean gestation age at delivery was 29.5±4.7 weeks, mean birth weight was 1389 ±203.3 mg (1190-1665) and mean apgar scores at 1/5/10 minutes were 9/10/10 respectively. Neonatal intensive care was needed in 4 newborns.

Conclusion: This study reinforces the idea that diabetic women with nephrotic range proteinuria have an increased risk of complications and worse outcomes during pregnancy, namely pre-eclampsia, fetal growth restriction, preterm delivery and renal function deterioration. As such, glycemic and proteinuric control should be optimized and careful counseling regarding outcomes should be discussed before pregnancy. Management during gestation should involve an experienced multidisciplinary team including endocrinologist, nutritionist, nephrologist and obstetrician.