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KIDNEY TRANSPLANTATION AND PREGNANCY: A REPORT OF 50 CASES

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ABSTRACT

A retrospective study was conducted on 50 pregnancies in 41 kidney transplant recipients. 37 pregnancies were successful (74%), while in 13 cases the pregnancy was lost (7 abortions, 5 intra-uterine fetal deaths and one therapeutic termination). The pregnancy course was uneventful in 38 cases (76%) but in 12 there were complications, such as hypertension or slight rise in serum creatinine. Pregnancy was terminated in one case because of acute rejection, which then responded well to treatment and graft function returned to normal. Two cases of congenital anomaly were detected.

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INTRODUCTION

Renal insufficiency greatly impairs reproductive function and oligo/anovulation is quite common among dialysis patients. Kidney transplantation overwhelmingly improves reproductive function, so many young patients will have a successful pregnancy following transplantation.[1-3] However, risk of abortion is slightly higher and fetal growth retardation is more common.[2-5] Nearly half of the pregnancies will be preterm.[2-4]

There is no proven detrimental effect of pregnancy on graft function,[4] and as long as pre-pregnancy serum creatinine is less than 1.5 mg/dL and blood pressure is normal of hypertension is well controlled, graft function will not be impaired.[2-4] It is recommended that kidney recipients wait for at least one year in case of a living donor and two years in case of a cadaveric donor, before getting pregnant. During this time most rejections will have been diagnosed and treated, so the dosage of prednisone and immunosuppressive drugs would be lowest during pregnancy (prednisone 15 mg/day-cyclosporine 1.5 mg/kg, Imuran 2 mg/kg).

MATERIAL AND METHODS

Patients were selected from the Nephrology Clinic of Labbafi Nejad Hospital, Tehran. We found 50 cases of pregnancies among 41 pregnant women. All information was collected from their hospital files and then completed through interview with the patients.

RESULTS

Mean age was 32.04 $\pm$ 4.9 years, and mean interval between transplantation and pregnancy was 24.4 $\pm$ 20.6 months (range 2-78 mo.) 30 cases were using cyclosporine and prednisone, 5 Imuran and prednisone and 5 others were using cyclosporine, prednisone and Imuran. One of them was receiving only cyclosporine. ESRD was of unknown cause in 26 (63.5%). Diabetes was responsible in 1, hypertension in 5 and glomerulonephritis in 3, while urologic problems were the etiologic factor in 5 and one case of ESRD occurred after pre-eclampsia.

37 pregnancies were successful (29 term and 8 preterm delivery). 7 patients had miscarriage, and one had therapeutic termination. Intrauterine fetal death occurred in 5. Antenatal complications occurred in 12 (24%), hypertension in 7, a slight rise in creatinine in 6 and proteinuria in 2 patients. One patient developed acute rejection, one hyperuricemia, and three had a rise in hepatic enzymes and bilirubin.

35 newborns survived, while there was two neonatal

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deaths due to sepsis (n= 1) and meningitis (n= 1).

Two cases of congenital anomaly were detected, one with syndactyly of the toes and the other one had absence of fingers (ectrodactyly). Mean birth weight was 2589.6 ± 605.8 g (range 1200-3750 g). 48.5% had LBW. 8 had normal vaginal delivery (NVD) and 29 had cesarean section (C/S) (Table I).

Table I. Clinical characteristics of pregnancies in renal transplant recipients.

Maternal age	32.04 ± 4.9 years
Interval between pregnancy & transplantation surgery	24.4 ± 20.6 months (range 2-78 months)
Gestational age	32.12 ± 9.83 weeks
Abortion	7 (14%)
Preterm birth	8 (16%)
Congenital anomaly	2 (4%)

DISCUSSION

Graft function deterioration during pregnancy is quite uncommon (0-10%) provided the GFR is normal or near normal (Cr<1.5) and blood pressure is normal or hypertension is well controlled.[6-9] When GFR is moderately decreased (Cr 1.5-2.5 mg/dL) creatinine will be decreased in the first half of pregnancy but then returns to pre-pregnancy levels.[10]

In case of uncontrolled hypertension, an irreversible decrease in renal function will occur in 50% of cases.[11] When creatinine is over 3 mg/dL most women would be anovulatory, so the chance of fertility is low.

In our study most of the pregnancies reaching the second trimester ended in a viable pregnancy (78.6%). Although kidney grafts will not cause dystocia during labor and cesarean section is indicated only for obstetric indications, 78.4% of pregnancies were nevertheless delivered with C/S in our study.

In conclusion, pregnancy is safe and successful after kidney transplantation, provided that graft function is good (Cr< 1.5 mg/dL) and blood pressure is normal or well controlled.

Prenatal complications are more common, so antenatal care should be more precise. The issue of immunosuppressive drug safety during pregnancy needs more evaluation.

REFERENCES

1. Hou S: Pregnancy in chronic renal insufficiency. Am J Kidney Dis 33 (2): 235-249, 1999.
2. Davison JM: Dialysis, transplantation and pregnancy. Am J Kidney Dis 17: 127, 1991.
3. Muirhead N, et al: The outcome of pregnancy following renal transplantation. Transplantation 54: 429, 1992.
4. Sturgiss SN, Davison JM: Effect of pregnancy on long term function in renal allografts. Am J Kidney Dis 26: 54, 1995.
5. Salmela KT, Kyllonen LE, Holmberg C, Gronhagen-Riska C: Impaired renal function after pregnancy in renal transplant recipients. Transplantation 56: 1372, 1993.
6. Hayslett JP: Kidney disease and pregnancy. Kidney Int 25: 579, 1984.
7. Surian M, Imbasciati E, Cosci P: Glomerular disease and pregnancy. Nephron 36: 101, 1984.
8. Jungers P, et al: Influence of pregnancy on the course of primary chronic glomerulonephritis. Lancet 346: 1122, 1995.
9. Hou S: Pregnancy in women with chronic renal disease. N Engl J Med 312: 836, 1995.
10. Imbasciati E, et al: Pregnancy in women with chronic renal failure. Am J Nephrol 6: 193, 1986.
11. Jungers P, Houillier P, Forget D, Henry-Amar M: Specific controversies concerning the natural history of renal disease in pregnancy. Am J Kidney Dis 17: 116, 1991.

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