The kidney transplantation is considered to be the best therapy for terminal kidney disease, nowadays. Numerous studies have shown that pregnancy may be successful and may result in a delivery of a healthy baby after the kidney transplantation. Pregnant women who are the recipients of a kidney transplant have increased chances of developing hypertension, preeclampsia, as well as going into premature labour and frequently giving birth to newborns of low birth weight.

We present a case of a successful pregnancy and delivery in a 32-year-old kidney transplant recipient who conceived spontaneously four years posttransplantation. The kidney transplantation has been done due to the chronic hypertension and the consequential kidney atrophy. During the pregnancy, the patient underwent anti-hypertension and immunosuppressive drugs therapy. She was also being monitored by the gynaecologist and the nephrologist. The pregnancy was terminated in the 40th week by an urgent Caesarean section due to the fetal bradycardia. The patient gave birth to the healthy baby girl.

Key words: Pregnancy, Kidney transplantation, Chronic kidney disease, Immunosuppressive drug.

1. INTRODUCTION

Chronic renal failure is often associated with infertility/sterility. The first successful pregnancy in women with transplanted kidney is described in 1963. Pregnancy in a woman with a transplanted kidney due to the great progress of surgical techniques and immunosuppressive drugs, can be successful today, even though there is a possibility of complications both for the mother and the fetus (1).

2. CASE REPORT

The patient was born in 1979. Since the age of 14 has suffered from hypertension. At the age of 27, due to the atrophy of kidney, she underwent the transplantation of her father’s kidney. Three years later, she spontaneously conceived and miscarried in the first trimester of pregnancy. Spontaneously conceived again after one year. The course of pregnancy was normal with regular ambulatory control at the nephrologist and gynaecologist. In the 35th week, she was admitted to our hospital for treatment and supervision. For immunosuppression she was taking tacrolimus 3.0,2.5 mg and azathioprine 50 mg 3x1 tbl. For the blood pressure control she was taking diltiazem 60 mg 2x1 tbl and bisoprolol-fumarate 1.25 mg 1 tbl. The blood pressure values were less than 140/90 mmHg. The laboratory values of urea, creatinine, protein in 24-hour urine collection and creatinine clearance were within normal values. The OGTT with 75 g of glucose: 0 minutes = 4.6 mmol/L, 120 minutes = 4.9 mmol/L. Urine cultures were sterile. Serological testing for TORCH was negative. The concentrations of tacrolimus in the blood were measured twice a week and the nephrologist corrected the dose twice (3.0, 3 and 4.0, 4 mg). The ultrasound examination of the fetus was normal, with normal fetal growth and development appropriate for the age. Spontaneous childbirth began with regular labours in the 40th week of pregnancy. Childbirth by C-section due to the fetal bradycardia. A female child was born, 2880 g/49 cm, apgar score 8/9. The patient was released on the 7th postoperative day. Bromocriptine was introduced for the purpose of ablation.

3. DISCUSSION

Terminal renal disease changes the function of the hypothalamus-pituitary-ovarian axis, which can affect the menstrual cycle (amenorrhea, oligomenorrhea, anovulation) and cause infertility. The increased concentration of prolactin, FSH and LH is common in patients with terminal renal disease. Disorder of the menstrual cycle (from oligomenorrhea to amenorrhea) was noticed in 74% of patients with termi-
Successful Pregnancy and Delivery After Kidney Transplantation

Pregnancy outcomes in women with chronic renal failure and a transplanted kidney are reviewed. The indications for pregnancy are presented, as well as the complications that can occur and the management of immunosuppressive drugs during pregnancy. The most commonly used immunosuppressive drugs as cyclosporine, tacrolimus, corticosteroids, azathioprine, mycophenolate-mofetil, mycophenolate sodium, sirolimus and everolimus.

The side effects of immunosuppressive therapy in pregnant women are hypertension, impaired renal function and immunosuppression of the fetus. Many immunosuppressive drugs are teratogenic in animals. However, the occurrence of malformations in children whose mothers were taking immunosuppressive drugs is not statistically significant compared to the general population. Due to the physiological changes in pregnancy the changes in the metabolism of the drug are possible as well, and therefore the concentration of drug in the blood of pregnant women should be regularly monitored and the dose values adjusted to the pregnancy.

Our pregnant woman was treated before pregnancy with tacrolimus and mycophenolate-mofetil which was pre-conceptually replaced with azathioprine. According to the FDA’s (Food and Drug Administration) classification of pregnancy risk categories, tacrolimus falls into the category C, while azathioprine and mycophenolate-mofetil into the category D. Mycophenolate-mofetil (MMF) is contraindicated in pregnancy because its administration is associated with an increased incidence of congenital anomalies of the fetus (2). Therefore 33% (25 of 77) of pregnant women taking MMF during the pregnancy suffered a spontaneous miscarriage and 18% (14 of 77) of children were born with malformations. The most common malformations are cleft lip and palate, micrognathia, hypertelorism, anomalies of the eyes, ears and lower extremities, heart, esophagus and kidney. Azathioprine can cause anemia, thrombocytopenia, immune deficiency in the fetus and increased susceptibility to infections. Recent studies indicate that the use of azathioprine in pregnancy is associated with an increased incidence of premature births and giving birth to children of low weight. The incidence of hypertension and preeclampsia in pregnant women who were taking tacrolimus is less compared to those taking cyclosporine (5).
4. CONCLUSION:

Pregnancy after kidney transplantation can be successful. Pregnancy does not have a negative impact on the function of the transplant if the pregnancy occurred when a stable transplant function was achieved. According to the current recommendations, pregnancy one year after the transplantation of the kidney is considered safe. Pregnant women with a transplanted kidney are at an increased risk for developing hypertension and preeclampsia and the increased incidence of preterm birth and intrauterine growth restriction. These are high-risk pregnancies that require enhanced monitoring and a multidisciplinary approach.

REFERENCES


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