

# Patient care after heart and kidney transplantation – case report

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## Abstract

A patient after vascularized organ transplantation requires especially attentive medical care because of the risk of rejection of the transplant, the necessity for monitoring immunosuppressive therapy, and increased susceptibility to infection during this treatment. Due to the progress in transplantation medicine the number of patients after organ transplantation (heart, kidneys, liver, lungs) increases every year, and becomes a great challenge for medical specialists, and increasingly more often for specialists in family medicine. It is important that physicians should be adequately prepared to cover this group of patients with care.

## Key words

heart transplantation, kidney transplantation, immunosuppressive therapy

## INTRODUCTION

The report presents the case of patient who had undergone heart transplantation due to dilated cardiomyopathy, and 12 years later, transplantation of kidney due to end-stage renal failure caused by cyclosporine nephropathy during the immunosuppressive treatment.

## MATERIALS AND METHOD

In 2000, the patient, currently aged 43, underwent heart transplantation at the Silesian Centre for Heart Diseases in Zabrze. The reason for heart transplantation was acute heart failure in the course of post-inflammatory dilated cardiomyopathy. In childhood, the patient underwent inflammation of the large joints, which also damaged the heart, and was the cause of end-stage heart failure at middle-age.

After the transplantation, the patient was in good condition. He received immunosuppressive therapy according to the medical standards, and was covered with care by the Outpatient Department for Transplantology at the Silesian Centre for Heart Diseases in Zabrze. Due to several episodes of transplant rejection, he required treatment with methylprednisolone infusions. In the course of immunosuppressive treatment with the use of cyclosporine, a gradual deterioration of renal function was observed, associated with progressive post-cyclosporine nephropathy. Considering the above, the patient required a change of immunosuppression scheme, with possibly the highest reduction of the dose of cyclosporine and application of mycophenolate mofetil. Despite this, further progression of renal failure was observed, which required the implementation of haemodialyses treatment in 2012. The patient was simultaneously included on the kidney transplant waiting list.

In September 2012, the patient received a kidney transplant from a deceased donor. The post-transplantation course was complicated by a urinary fistula which required surgical treatment, and primary CMV infection during the second month after kidney transplantation. In October 2012, the patient was also diagnosed with post-transplantation diabetes, requiring treatment with gliclazide, and transplant coronary artery disease in the initial stage. The patient remains covered with care by the Outpatient Department for Transplantology at the Silesian Centre for Heart Diseases in Zabrze, and the Outpatient Department for Transplantology at the Transplantation Clinic for Transplantation Medicine and Nephrology, at the Medical University in Warsaw.

## RESULTS

According to the data from the Organization-Coordination Centre for the Matters of Transplantations 'Poltransplant', in Poland, nearly 10,000 people live with transplanted organs. In 2012, 1,094 kidney transplants were performed, 314 liver transplants, and 79 heart transplants. Among the recipients of transplants, young people and children constitute an increasingly larger group [1]. Patients after organ transplantations require special care considering the necessity for the monitoring of function of the transplanted organ, establishing the doses of immunosuppressive drugs, early treatment for rejection of the transplanted organ, as well as the possibility of infections [2, 3].

A patient who receives immunosuppressive therapy is exposed to many viral, bacterial and fungal infections. Directly after the surgery, infections are related mainly with the sole surgical procedure and its complications [4, 5]. During the period from the second and sixth month after the transplantation, i.e. the so-called adaptation period, there are most often revealed infections with viruses (CMV- cytomegalovirus, HHV-6-Human Herpesvirus 6, EBV- Epstein-Barr virus), bacterial, fungal and protozoan infections (Pneumocystis, Listeriosis, Legionellosis, Toxoplasmosis). Primary infections (reactivation), or secondary infections (reinfection) with CMV viruses which are especially frequent. A great problem are also

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infections with polyomaviruses and orthomyxoviruses [6, 7, 8]. Among the fungal and blastomycetic infections, the most frequent are infections of the skin and its appendages caused by the fungi *Epidermophyton*, *Trichophyton* and *Candida* [9]. Invasive organ mycoses are life-threatening (concerning lungs, central nervous system and other organs). Apart from infections, a patient after transplantation is also exposed to the adverse effects of immunosuppressive drugs on various organs. Immunosuppressive drugs may be the cause of nephropathy (mainly during treatment with cyclosporine), haematological disorders (thrombocytopenia, ischemia, leukopenia), lipid disorders, arterial hypertension, diabetes, osteoporosis, changes in the oral cavity (gingival hypertrophy, xerostomia), or dermal changes (hirsutism or baldness) [10, 11, 12]. Immunosuppressive drugs may enter into undesirable interactions with other drugs, which should be kept in mind while implementing treatment with an antibiotic, hypotensive drug, or other preparation in the practice of a family physician.

Chronic immunosuppressive therapy is also the cause of more frequent development of malignant cancers. The main risk factors of the occurrence of cancer in patients who have undergone organ transplantation are the age of the patient, application of strong immunosuppression, mode of life, and exposure to exogenous carcinogenic agents [13, 14].

## CONCLUSIONS

The progress in transplantation is a tremendous chance for regaining health by many patients who require transplant of the heart, kidneys, liver, or other organs. The number of patients after organ transplantation, which is increasing every year, will be a growing challenge for the health care system and for physicians. Considering such a large number of patients who have undergone organ transplantation, a part of the care of these patients will be the responsibility of family physicians. It is important that the first contact physicians are properly prepared for exercising the care of a patient after organ transplantation, and during chronic immunosuppressive treatment.

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