2.8, $p=0.05$) were independently associated with increased rejection risk. Older age was associated with decreased risk (RR: 0.97, 95% CI 0.95 to 0.99, $p<0.01$). **Conclusion:** Among factors associated with rejection, use of prophylactic ganciclovir shows a significant reduction in biopsy proven rejection in OLT. In the current era of organ transplantation with the use of prolonged oral ganciclovir prophylaxis, with or without CMVIG, the incidence of CMV disease, mortality and rejection is dramatically reduced.

Herpes-viral and fungal infections at the diabetic patients

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Objectives: The follow-up some infectious complications at the patients with diabetic nephropathy after renal allotransplantation
Methods: Laboratory diagnosis was performed by PCR-primers to MIE region of CMV with product 500 b.p., to BMRF-1 region of Epstein-Barr virus (EBV) with product 290 b.p. and to adherence factor region of *Candida albicans* with product 500 b.p., to L-1 region of HHV-6 with product 379 b.p.
Results: The blood of 59 patients after renal allotransplantation were assayed. Among them 57 had 1 type diabetes and 2 had II type diabetes. Cytomegalovirus (CMV) DNA was revealed in the blood of 39 (66,1%) patients as single herpes-virus infection at 14 to 15 days after transplantation with minimal clinical symptoms (indisposition, subfebrile temperature, leukopenia, symptoms of rejection), besides 3 patients, who had very acute CMV-pneumonia for a long time. After treatment by gancyclovir the symptoms of diseases disappeared and CMV DNA cleaned. No one of 67 donors had CMV DNA in blood. Among 79 usual renal recipients CMV DNA had 19 (24%) with different clinical symptoms. In the blood of 1 patient DNA of *C. albicans* was detected. The diagnosis was confirmed by bacteriological method. This patient had acute fungal pneumonia. After treatment by amfotemycin B symptoms of pneumonitis disappeared and DNA of *C. albicans* cleaned. In the blood of 17 (28.9%) patients EBV DNA was revealed without other infections. This patients had diarrhea, subfebrile temperature and the short pains in the joints. After treatment by acyclovir, zovirax or zaditen the symptoms of diarrhea disappeared and the conditions of patients get well. 20% of healthy donors had EBV DNA in blood. One diabetic patient, who had DNAs of CMV, HHV-6 and EBV, was a very severe one and suffered with acute CMV disease 6 weeks later of the HHV-6 and EBV DNA disappearance.
Conclusion: Diabetic patients have infectious complications much more often and with more severe clinical symptoms as compared to usual patients after renal transplantation. The diseases begin earlier (at 14–15 days), and therefore we recommend to begin the preventive therapy at 7–9 days after transplantation.

Fungal and bacterial pathogens in the oral cavity as potential factors of infections in the allotransplant recipients

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The aim of the study was to assess the oral cavity status and identify the oral microorganisms in the kidney allograft recipients under chronic immunosuppression (Tx), in the recipients with type I diabetes (Txd) and in the control patients (C) without systemic diseases.

Forty-five patients, 20 to 65 years old, were analysed. Swabs and samples taken randomly from 5 sites of periodontium and dental pockets of each patients were used for microscopical studies and cultured to identify bacteria and fungi.

Among the Tx and Txd patients the oral alterations were observed (mucosal inflammation, gingival hyperplasia, periodontitis).

The microscopical examinations and cultures showed the presence of various species of the fecal bacteria (*Enterococcus faecalis, E. faecium, Enterobacteriaceae, Escherichia coli*) and the fungi (identified as various strains of *Candida albicans*); the oral protozoans: *Trichomonas tenax* and *Entamoeba gingivalis* were also found. Prevalence of the bacteria was higher in the Txd and Tx groups (50% and 43.7%, respectively) than in the control patients (5.8 %). The fungi were found in 41.5% of the Txd, 37.5% of Tx and in 17.5% of C patients. Prevalence of the oral protozoans was 8.5% in Txd, 12.5 in Tx and 17.5% in the C patients.

Our studies show that the species composition of the microorganisms is clear changed in the oral cavity of the patients with serious metabolic disabilities and decreased resistance connected with the systemic disease, in comparison to the control patients. High prevalence of the bacterial and fungal opportunistic species in the mouth of the patients under chronic immunosuppression indicates on a major risk for subsequent-local or general-infections that may cause further deterioration of the health in the kidney allograft recipients.

The impact of cytomegalovirus (CMV) infection and disease on rejection episodes in renal allograft recipients[1]

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Background: Cytomegalovirus infection and disease are potential risk factors for acute allograft rejection in renal transplant recipients.
Methods: From October 1994 to July 1997, 477 consecutive renal allograft recipients (397 first transplants and 80 retransplants) were included in the study. Cytomegalovirus infection (cytomegalovirus pp65 antigen in leukocytes) and disease (infection and clinical symptoms or signs of disease) were examined prospectively for 3 months. No cytomegalovirus prophylaxis was given, and cytomegalovirus disease was treated with i.v. ganciclovir. The retransplantation of 4 patients transplanted twice during the study and 22 patients receiving kidneys from HLA-identical siblings were excluded from statistical analysis. Rejections were evaluated clinically (277 (61%)) and 173 (38%) also had a biopsy verified rejection.
Results: Cytomegalovirus infection occurred in 64% of the patients and 24% experienced cytomegalovirus disease. In a multiple time-dependent Cox analysis independent significant predictors for clinical acute rejections were cytomegalovirus infection, RR=1.6 (1.1–2.5, p=0.02), cytomegalovirus disease, RR=2.5 (1.2–5.1, p=0.01). Among 173 patients with biopsy verified rejection 72% of the patients had tubulointerstitial rejection whereas 28% had a vascular rejection. cytomegalovirus disease, but not cytomegalovirus infection was a predictor of tubulointerstitial rejection, RR=3.1 (1.1–9.3, p=0.04).
Conclusion: Cytomegalovirus infection and disease are independent risk factors for clinically acute rejection in kidney risk factor for biopsy verified acute tubulointerstitial rejection in kidney allograft recipients.

Use of intravenous immunoglobulin (IVIg) in addition to antiviral therapy for the treatment of CMV disease in heart transplanted patients with secondary hypogammaglobulinemia

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Introduction: Cytomegalovirus (CMV) disease occurs frequently after solid organ transplantation and has been associated with decreased patient and allograft survival. IVIg have been used in organ transplantation in combination with antiviral agents to treat established CMV disease. However, only limited data in heart transplanted patients with secondary hypogammaglobulinemia exist.

Patients and Methods: We assessed the overall prevalence of significant hypogammaglobulinemia in the post-transplantation period after heart transplantation. We present data on 5 heart transplanted patients with recurrent CMV infection, four of whom developed gastrointestinal disease. One of the patients associated acute graft rejection. An immunologic evaluation showed hypogammaglobulinemia (mean IgG levels: 323±40 mg/dl (n.v. 700–1600 mg/dl)) in all the patients. The mean absolute number of CD4+ T-cells and B lymphocyte counts were 429±233 and 67±40 cells/mm^3, respectively. IVIg (Flebogamma®) 200–400 mg/kg every 21 days plus antiviral treatment with gancyclovir was administered to the patients. After treatment the patients were followed-up for a mean period of 12 months.

Results: IVIg treatment, in combination with antiviral therapy, proved able to control CMV disease. There was a favorable clinical response and the patients became free of gastrointestinal symptoms. Detection of CMV antigens was negative after treatment.

Conclusions: Even if our survey was limited to only five cases, the results indicated that addition of IVIg to antiviral chemotherapy might improve outcome in heart transplanted patients with CMV disease and hypogammaglobulinaemia.

Keeping previously placed implantable catheters (IC) does not increase the morbidity in patients (pts) undergoing autologous peripheral stem cell transplantation (APSCT)

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Objective: To assess if keeping a previously placed IC is associated with an increase in morbidity in patients undergoing APSCT.

Methods: We reviewed all pts who underwent APSCT with an IC in place from 3/97 to 1/02. We compared these pts with a control group (no IC in place) that was matched by disease, age, and sex.

Results: 43 pts (IC group) were matched with 43 controls (no IC). In both groups the age (mean 40 years old), the sex distribution (58% females), and the duration of neutropenia (mean 8 days) were the same. Underlying malignancies included multiple myeloma (14 and 12), lymphoma (22 and 24), leukemia (3 and 3) and others (4 and 4) in the IC and no IC groups, respectively. Antibacterial and antifungal prophylaxis were used in 18 and 23 pts in the IC group vs 10 and 17 pts in the no IC group (P=NS). The IC were used in 20 of 43 pts within the 60 days of transplantation The endpoints shown in the table were used as markers of morbidity: