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CARDIOVASCULAR RISK IN ESRD PATIENTS ON THE TRANSPLANT WAITING LIST FOR RENAL TRANSPLANTATION

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Abstract

Renal transplantation represents the main method of renal substitution in uraemic patients. The decreased supply of organs, in the conditions of a high organ demand, has determined an increasing number of patients on the waitinglist, and also of the cardiovascular events. The purpose of ourstudyis to establish the frequency and the gravity of the cardiovascular events, as well as the associated risk factors existing in uraemic patients that were included or not in renal substitution treatment programs, prior to inclusion on the transplant waitinglist, in the Nephrology Center of the «Fundeni» Clinical Institute. The material used for this study included 432 cases (236 men, 196 women, mean age=47,7years) diagnosed with end stage renal disease (serum creatinine $\frac{24}{12}$6 mg%, Cl Creatinine < 15 mg%), based on the international ERA-EDTA criteria. The patients were divided into three groups: group A contained the non-dialyzed patients (137 cases), group B contained patients undergoing hemodialysis (202 cases) and group C contained patients undergoing peritoneal dialysis (CAPD). The mean follow-up period was 11,9 months (1-119). Patients suffering from severe heart failure ($\frac{24}{12}$ stage IV NYHA), severe respiratory failure, stage Childs C liver cirrhosis, HIV infection, active infectious diseases, advanced neoplasia, age over 70, patients who refused, were not included in this study. 8,3% (36/432) received a transplant, and 8,1% died (35/432). Mortality rate was significantly lower ($p<0.05$) in patients undergoing peritoneal dialisys (2,1%), compared to those non-dialyzed (15,3%) or those undergoing hemodialisys (5,9%). The main death causes were: major heart arrhythmias (34,5%), stroke (20%), sudden death (5,7%), pulmonary embolism and acute pulmonary aedema (2%). The rate of cardiovascular disease was 81,0% for the non-dialyzed patients, 73,8% for patients undergoing hemodialysis and 84,9% for those undergoing peritoneal dialysis. The most frequent clinicaly identified cardio-vascular disease was arterial hypertension, with a significantly higher prevalence ($p<0,05$) in the non-dialyzed uraemic patients (80,3%), compared to the hemodialyzed patients (61,4%) or CAPD patients (64,5%). The prevalence of ischaemic heart disease with ECG modifications was 13,7%, of major arrhythmias was 10,4%, and of heart failure was 9,5%, with a significantly higher frequency among patients undergoing dialisys, probably because of the haemodynamic, atherogenic, electrolyte etc. changes that are induced by hemodialysis, or because patients suffering from cardiovascular illnesses were included in the peritoneal dialisys program(19,2% in hemodialyzed patients and 15,0% in patients undergoing peritoneal dialysis versus 5,6% in those non-dialyzed, $p<0,05$). In conclusion the global mortality rate on the renal transplant waiting list was of 8,1%/year, the mortality causes being mainly of cardiovascular nature: arrhythmias and stroke. Cardiovascular morbidity was high, over 70% for the non-dialyzed, hemodialyzed or CAPD uraemic patients suffering from cardiovascular illnesses. Arterial hypertention, arrhythmias, stroke, heart failure, pulmonary embolism are the main causes of morbidity in the uraemic patients on the renal transplant waiting list, whether or not they are included in a dialisys programe. Dialisys does not reduce the risk of cardiovascular events in uraemic patients that are on the renal transplant waiting list, on the contrary, the rate of cardiovascular morbidity and mortality are significantly higher in these cases.

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