

Cardiovascular risk factors in children after kidney transplantation

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Введение

Kidney transplantation (Tx) is the gold standard treatment for many patients with end-stage renal disease (ESRD). Renal transplant recipients (RTRs) are at increased risk of cardiovascular events (CVE). RTRs and in combination with CVE accounts for 22% of all deaths.

Цель исследования

The aim of our study is to evaluate early CV changes in children with end-stage chronic kidney disease after kidney Tx.

Материалы и методы

Fifty two children (28 boys and 24 girls) from age of 6 till 22 (median 14 years), who has undergone kidney Tx were recruited in the study. Causes for ESRD were: Glomerular (n=25), CAKUT (n=21), Tubulopathies (n=5) and 1 child with unknown. We have considered median age at manifestation of the disease, duration of the disease before Tx, time on dialyses before Tx, blood pressure, creatinine, urea, uric acid, total cholesterol and lipids fractions, glucose levels, estimated glomerular filtration rate (eGFR), proBNP, high sensitive CRP, transferrin in the blood, body mass index (BMI). CV organ damage was determined by non-invasive measurements (ultrasound): left ventricular mass index (LVMI), left ventricular hypertrophy (LVH) and carotid Intima media thickness (IMT).

Результаты

Median age at manifestation of the disease was 5.5 yrs, duration of the disease before Tx from 1 month till 17 yrs, time on dialyses before Tx from 1 month till 5 yrs 4 months, median age at Tx - 10 yrs. According to the 24 hours blood pressure (BP) monitoring or profile of BP only 2 patients were without AG. Creatinine level was 106.8 ± 6.03 , Urea 6.95 ± 0.42 , Glucose 5.08 ± 0.07 , total cholesterol 3.9 ± 0.15 , high density cholesterol 1.25 ± 0.07 , Low density cholesterol 0.49 ± 0.05 , triglycerides 1.01 ± 0.07 and Uric acid 337.1 ± 13.67 . BMI was 18. Most of the RTRs have normal ejection fraction (above 59.6%) and IMT. LVMI was significantly higher in comparing with healthy children ($p < 0.05$).

Выводы

The incidence of cardiovascular diseases development in kidney transplant recipients are higher than in normal populations. Appropriate routine cardiovascular screening and evaluation are needed to reduce late onset CVE incidence.