Objective: A cardiovascular diseases are a frequent cause of death of patients after liver transplantation. The aim of the study was to estimate the prevalence of arterial hypertension among patients who underwent liver transplantation and the role of immunosuppressive drugs in the pathogenesis of hypertension in these patients.

Design and method: 91 patients (age 47 ± 12; 33 women, 58 men) after liver transplantation who survived 12 months were analyzed retrospectively. 84 of them completed 24 months follow-up. The statistical analysis was performed using the following tests: χ², Spearman’s correlation, Mann-Whitney U and multiple regression analysis. The results are presented as means with standard deviation.

Results: One, 12 and 24 months after liver transplantation the prevalence of hypertension were 46%, 56% and 63%, respectively (the difference between 1 and 24 months: p = 0.02). Systolic blood pressure (SBP) and eGFR in above mentioned months were 126 ± 18; 134 ± 20; 136 ± 18 and were 78 ± 34; 75 ± 31; 76 ± 29 respectively. 24 months after transplantation 60 (78%) patients were treated with tacrolimus, 10 (13%) cyclosporine A, 10 (13%) everolimus and 70 (91%) prednisone. Hypertension was found significantly more frequently in patients treated with cyclosporine than with tacrolimus (p = 0.008) and everolimus (p = 0.02) (100% vs 56% vs 60%, respectively). There were significant correlations between tacrolimus blood concentration and SBP after 24 months (R = 0.29; p = 0.04). Multiple regression analysis performed in the group of patients treated with tacrolimus, as SBP as the dependent variable and eGFR, tacrolimus blood concentration as independent 24 months after liver transplantation showed that SBP significantly depends on eGFR (p = 0.02) and tacrolimus blood concentration (p = 0.01).

Conclusions: 1. Arterial hypertension occurs in more than 50% of patients after liver transplantation. 2. Calcineurin inhibitors may participate in the high incidence of arterial hypertension in these patients. 3. Clinical importance of these findings and the influence on cardiovascular outcome of the liver transplant patients need to be elucidated.