

## PREVALENCE OF NEW ONSET DIABETES IN PATIENTS AFTER KIDNEY TRANSPLANTATION – THE PROSPECTIVE STUDY

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**Objective** While kidney transplantation is the best treatment of renal insufficiency and is recommended for patients with a glomerular filtration rate below 30 mL/min, new onset diabetes after transplantation (NODAT) reduces the benefits of this treatment, and present a significant, independent predictor of patient mortality and loss of graft function. The aim of the study was to determine the incidence of NODAT, as well as the risk factors for new onset diabetes mellitus (DM).

The study included 84 patients older than 18 years, who underwent kidney transplantation in the Clinical Center Niš in the period from 2007 to 2016. Impaired glucose tolerance was found in all of these patients in the first three post-transplantation months. In addition to physical examination and basic laboratory analyses, in all of kidney transplant patients the levels of tacrolimus and glycosylated hemoglobin HbA1c were determined.

NODAT was registered in 7 (8.3%) patients after average 17.2±10.8 days of kidney transplantation. The patients with NODAT had significantly higher levels of serum creatinine 210.72±120.29 µmol/L and decreased creatinine clearance 43.31±17.57 ml/min/1.73m<sup>2</sup> compared with a group of patients with diabetes prior to kidney transplantation 180.16±82.78 µmol/L and 52.12±18.45 ml/min/1.73m<sup>2</sup>, respectively (p <0.01), and a statistically significantly shorter follow-up period after kidney transplantation (p <0.05). The results showed a significantly higher level of body mass index (BMI) 30.6 ± 6.4% compared to patients with already present diabetes before transplantation 28.5±6.8%, as well as the level of triglycerides 2.87±0.79 mmol/L vs. 1.73±0.82 mmol/L (p <0.05). The level of tacrolimus was adequate for the given post-transplantation period.

NODAT is a significant complication of kidney transplantation and is associated with risk factors, primarily with older recipient age and hereditary burden, but also with variable factors such as obesity and hypertriglyceridemia. We believe that the prevalence of NODAT can be changed if oral glucose tolerance test (OGTT) is done prior to transplantation in the potential kidney graft recipients

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**Key words:** kidney transplantation, new onset diabetes, risk factors