Impact of compliance with lifestyle recommendations and medication adherence on 1-year prevention of major cardiovascular events in diabetic patients undergoing partial foot amputation

Shalaeva E.[1]; Janabaev B.[1]; Shalaeva A.[1]; Dadabaeva N.[1]; Bano A.[2]; Saner H.[2]

[1]Tashkent Medical Academy, Tashkent, Uzbekistan
[2]Institute of Social and Preventive Medicine. University of Bern, Bern, Switzerland

Background: Partial foot amputation (PFA) is generally not considered a high-risk surgery. However, 3 years survival rate is less than 50-60%. The purpose of the study was to evaluate the impact of compliance with lifestyle recommendations and medication adherence on 1-year prevention of major cardiovascular events (MACE) in patients with type 2 diabetes mellitus (T2DM) after PFA.

Methods: In this prospective single-center interventional cohort study, 785 consecutive T2DM patients after PFA were included in the 1-year follow-up. Physical examination and laboratory tests were performed at baseline and every month after PFA for 1 year. Patients were considered as compliant with lifestyle recommendations if they followed a healthy diet, smoking cessation, and at least ≥30 min/day physical exercise. Patients were defined as adherent to medication if they followed ≥80% prescribed medication intake. MACE was defined as a composite endpoint including cardiovascular death, myocardial infarction (MI), stent thrombosis, acute stroke, or unstable arrhythmia.

Results: During 1-year follow-up MACE occurred in 63/535 patients who were medication adherent compared to 137/249 non-adherent patients (Chi square = 167,2, p < 0,001). Among lifestyle compliant patients, 55/498 had MACE compare with 145/286 non-compliant patients (Chi square = 150.3, p < 0,001). The COX regression analysis was conducted to present the adjusted effect of compliance and adherence to the incidence of MACE (B = 0.989, p < 0.001, and B= 1.096, p < 0.001, respectively) (Table). The potential confounders such as age and previous MI were statistically significant (Table). Gender, smoking, diabetes severity, HbA1c, hypertension, symptomatic coronary artery disease, history of ischemic events, heart revascularization were not statistically significant.

Conclusion. Failure to follow lifestyle recommendations in T2DM patients after PFA increases the OR of the incidence of MACE 2.7 fold, non-adherence to medication 3 fold. Our results indicate that optimizing preventive interventions is of outmost importance for patients with diabetes undergoing PFA

Cox Regression Results for predictors of

Indicator	Odds ratio	B	Standard error	P-value
Age	1.031	0.031	0.009	0.007
History of myocardial infarction	4.017	1.391	0.184	<0.001
Non-compliance to lifestyle changes	2.688	0.989	0.198	<0.001
Medication non-adherence	2.992	1.096	0.186	<0.001