Patients with Q-myocardial infarction (MI) of the left ventricle (LV) posterior wall (PW) who have right ventricular (RV) myocardial involvement appear to have a greater risk of in-hospital and long-term mortality, adverse cardiovascular events (ACVE) than those who do not have RV MI. However, the magnitude of this increased risk of worse prognosis has been debated. It remains unclear whether the worse prognosis of patients with RV MI observed by some authors is simply related to the more extensive left ventricular MI or is the result of the RV MI itself. Therefore there is a need to identify additional markers of risk that would expand opportunities the stratification of early and long-term prognosis of patients with RV MI.

The use of biomarkers is widely accepted as tools for diagnosis and risk stratification. Galectin-3 is a member of a family of proteins comprising soluble β-galactoside-binding lectins that have regulatory roles in fibrogenesis, inflammation, tissue repair, and cell proliferation. A number of clinical studies have shown the use of galectin-3 as a risk marker of complications in patients with heart failure and ACVE in patients with acute coronary syndrome. However, the prognostic role of galectin-3 of patients with RV MI is still unknown.

**The aim:** To assess the prognostic value of galectin-3 in the development of a combined cardiovascular (CV) endpoint at 30-month follow-up in patients with MI of the RV in the background Q-MI LVPW.

**Materials and Methods:** The study involved 155 patients with MI of the RV due the Q-MI of the PWLV aged 64.11± 0.78 years. Galectin-3 levels determined on the 2nd day of acute MI and on the 6 month follow-up (Platinum ELISA). Follow-up was 30.6±4.5 month. The combined endpoints included: unstable angina (UA), Re-MI, stroke and cardio-vascular death (CVD). 62 (40%) patients in whom the study endpoints occurred were included in grope 1st, 93 (60%) patients without ACVE composed grope 2nd.

**Results and discussion.** Cardiovascular endpoints reached 62 (40%) patients: UA — 50 (32.2%), Re-MI — 15 (9.6%), stroke — 9 (5.8%) patients, 14 people (9.0 %) died.

Baseline characteristics patients of 1st group differed older age (67.7 ± 0.95 years, p = 0.0001), longer duration of history of coronary artery disease (CAD) (p<0.0001) and the number of stroke (p = 0.0145) and MI (p = 0.002) in history. The significantly frequent comorbidities in 1st group patients were diabetes mellitus (DM) (38.7%, p = 0.0156), arterial hypertension (AH) (91.9%, p = 0.026) and peripheral atherosclerosis (25.8%, p = 0.0037).

The concentration of galectin-3 on 2nd day of RV MI in patients of 1st grope was significantly higher than those of patients in 2nd grope (35.61 ± 0.64 ng/ml vs26.83 ± 0.72 ng/ml, p<0.0001). Multivariable regression analysis demonstration that galectin-3 level on 2nd day RV MI is an independent risk factor for UA (6.5%, p = 0.029), Re-MI (9.9%, p = 0.029) and CVD (8.9%, p = 0.0001) during 30 month follow-up.

In 6 month after RV MI the galectin-3 levels were 29.28 ± 1.77 ng/ml (14.2 ng/ml — 60.1 ng/ml), they were not significantly different from baseline (p=0.262). In the group of patients with complicated post-infarction period the average of galectin-3 level (38.61 ± 2.04 ng/ml, p <0.0001) was significantly higher than the rate of patients in 2nd group (18.8 ± 0.53 ng/ml, p <0.0001). It was found in the dynamic of observation the galectin-3 level increased in patients with complicated follow-up (38.61 ± 2.04ng/ml, p=0.17), but in 2nd grope patients the galectin-3 level significantly decreased (18.8± 0.53ng/ml, p<0.0001).

According to stepwise regression analysis, the galectin-3 level in 6 months after RV MI is a predictor of ACVE within 30 months follow-up: CVD (14.1%, p<0.0001), UA (12.5%, p=0.000028), stroke (7.9%, 0.0005) and Re-MI (6.5%, p=0.0023).

The connection was established between the combined CV endpoints within 30 month follow-up and concentration of galectin-3 in 6 month. Figure 1 shows the Kaplan-Meier survival curves according to mediana of galectin-3. There was an increase of ACVE across the galectin-3 mediana(29.28 ng/ml) (Cox’sF-Test: T1 = 17,43154; T2 = 9,568460; p = 0,000001)
Fig. 1 Kaplan-Meier curves according to mediana of 6 month galectin-3 values. Cox’s F-Test: T1 = 17,43154; T2 = 9,568460; p = 0,000001. Galectin-3 values ≤ 29.28 ng/ml; galectin-3 level > 29.28 ng/ml)

Conclusions.
1. It was proved prognostic value of galectin-3 in the development of adverse cardiovascular events during the 30 months follow-up in patients with RV myocardial infarction on the background of the Q-MI LVPW.
2. The connection was established between the combined CV endpoint within 30 month follow-up and the high galectin-3 levels in 6 month after RV MI.