**Abstract**

**Aim**

To determine the effectiveness of radiofrequency ablation (RFA) with concomitant Coronary Artery Bypass Grafting (CABG) by the patients with persistent atrial fibrillation (AF) depending on the glomerular filtration rate (GFR).

**Material and methods**

403 patients (253 males and 150 females) aged from 50 to 67 (average age: 60.5±6.7 years) with persistent AF were examined. The duration of AF before an operation ranged from 1.5 to 8 years and on average 4.7±1.5 years. The initial figures of GFR accounted for from 59 to 45 ml/min/1.73 m2 in 247 patients (the 1st group) and from 89 to 60 ml/min/1.73 m2 in 156 patients (the 2nd group).

**Results**

During inpatient hospital period of CABG it was diagnosed Acute Kidney Injury (AKI) by the132 patients (53.4 %) in the 1st group and by the 35 patients (22.4 %) in the 2nd group. Early recurrences of AF were revealed by 43.3 % of pa-tients in the 1st group and by 23.7 % of patients in the 2nd group (p<0.001). In the 1st group the diagnosis of early recurrences of AF was made significantly more frequently among patients with AKI than among patients without it. 12 months after operation late recurrences of AF without antianginal therapy were revealed by 31.3 % of patients and among them by 37.8 % of patients with AKI in the 1st group; and by 21.2 % and 24.2 % respectively in the 2nd group. The figures of GFR were higher by patients with effective RFA than by patients with ineffective RFA on aver-age at 37.8 % (p = 0.002). It was revealed that GFR directly correlates with an effective refractory period of the left atrium (r = 0.56; p < 0.001) and a frequency threshold for induction of arrhythmia (r = 0.53; p = 0.013). Elimination of paroxysms of AF after RFA procedure was followed by considerable improvement of morpho-functional and electrophysiological parameters of heart.

**Conclusion**

It was shown that the presence of renal dysfunction in patients with persistent AF adversely influences on effec-tiveness of RFA with concomitant CABG and a short- and long-term cardiovascular prognosis.

**Key words**

Renal dysfunction, coronary artery bypass graft surgery, radiofrequency ablation, atrial fibrillation.