**Abstract**

**Objective.** To assess the dynamics of atherogenic lipoproteins and estrogens during the management of dyslipidemia with PCSK-9 inhibitors in patients with coronary artery disease (CAD) and various comorbidities.

**Materials and methods.** The study included 114 men with CAD and very high cardiovascular risk. All patients

were divided into three groups: group 1 — patients with CAD (n=39), group 2 — patients with CAD in combination

with type 2 diabetes mellitus (T2DM) (n=38), group 3 — patients with CAD in combination with stages IIIA-IIIB of

chronic kidney disease (CKD) (n=37). All study participants were administered with intense treatment with statins +

ezetimibe. In case when target levels of low-density lipoprotein cholesterol (LDL–C) were not achieved, alirocumab

was added to treatment with the control of lipid profile and estrogens levels for 12 months.

**Results.** In group 1 97.4 % of patients (n=38) achieved target LDL–C level that decreased by 73.9 % from 4.41Ѓ}0.19 mmol/l to 1.15Ѓ}0.15 mmol/l (p<0.001); in group 2 94.7 % of patients (n=36) achieved target LDL–C level that decreased by 74.2 % from 4.62Ѓ}0.25 mmol/l to 1.19Ѓ}0.12 mmol/l (p<0.001), in group 3 91.9 % of patients reached target values (n=34) and LDL–C decreased by 73.5 % from 4.60Ѓ}0.20 mmol/l to1.22Ѓ} 0.09 mmol/l (p<0.001). The level of estradiol after 12 months after treatment with alirocumab increased by 8.3 %

(p=0.39) in group 1, by 7.7 % (p=0.36) — in group 2, by 8.5 % (p=0.31) — in group 3.

**Conclusion.** Thus, the use of PCSK9 inhibitors in combination with optimal lipid-lowering therapy in patients with

very high cardiovascular risk showed clear effectiveness in patients with CAD without comorbidities. In all study

groups, plasma estradiol level statistically insignificantly increased after alirocumab treatment.