The aim of the study is to determine the relationship between the autofluorescence index and residual risk as part of a comprehensive assessment based on different cholesterol-lowering regimens in patients with CHD.
Methods. In this prospective study, 120 male patients with CHD underwent stepwise cholesterol-lowering therapy (monotherapy, dual, and triple therapy). Upon achieving
the target level of low-density lipoprotein cholesterol (LDL-C), patients were divided into three cohorts. Each cohort underwent a comprehensive clinical and instrumental evaluation, including the determination of advanced glycation end products using the AGE Reader device (Diagnoptics Technologies B.V., Netherlands), which automatically calculated the autofluorescence index.
Results. LDL-C target levels were achieved by 27.5% of patients (n = 33) on monotherapy, 60% (n = 72) on dual therapy, and 12.5% (n = 15) on intensified triple therapy. AFI showed a decreasing trend at 6, 12, and 18 weeks, with final values as follows: cohort 1 (monotherapy) —
1.75 (95% CI: 1.70–1.95), cohort 2 (dual therapy) — 2.85 (95% CI: 2.30–3.80), cohort 3 (triple therapy) — 4.90 (95% CI: 4.15–4.90) To assess the relationship between achieved LDL-C levels and AFI after 18 weeks of treatment, a correlation analysis was performed. The resulting
correlation coefficient ($\rho = 0.388$) indicated a moderate but statistically significant association ($p < 0.05$) according to the Chaddock scale. The relationship was strongest in cohort 3 (triple therapy) and weakest in cohort 1 (statin monotherapy), supporting the potential of AFI as a surrogate marker for residual cardiovascular risk.
Conclusion. The determination of AFI in routine clinical practice may serve as a convenient, non-invasive method for the indirect assessment of residual cardiovascular risk in patients with CHD. This approach could enhance the implementation of secondary prevention strategies,
including the intensification of lipid-lowering therapy for more stringent control of the lipid component of residual risk.