

Supplementary Materials

ICRJ-3-190

Digital Analytic Cardiography (DACG), A New Method for Quantitative Trophism Assessment of the
Myocardium

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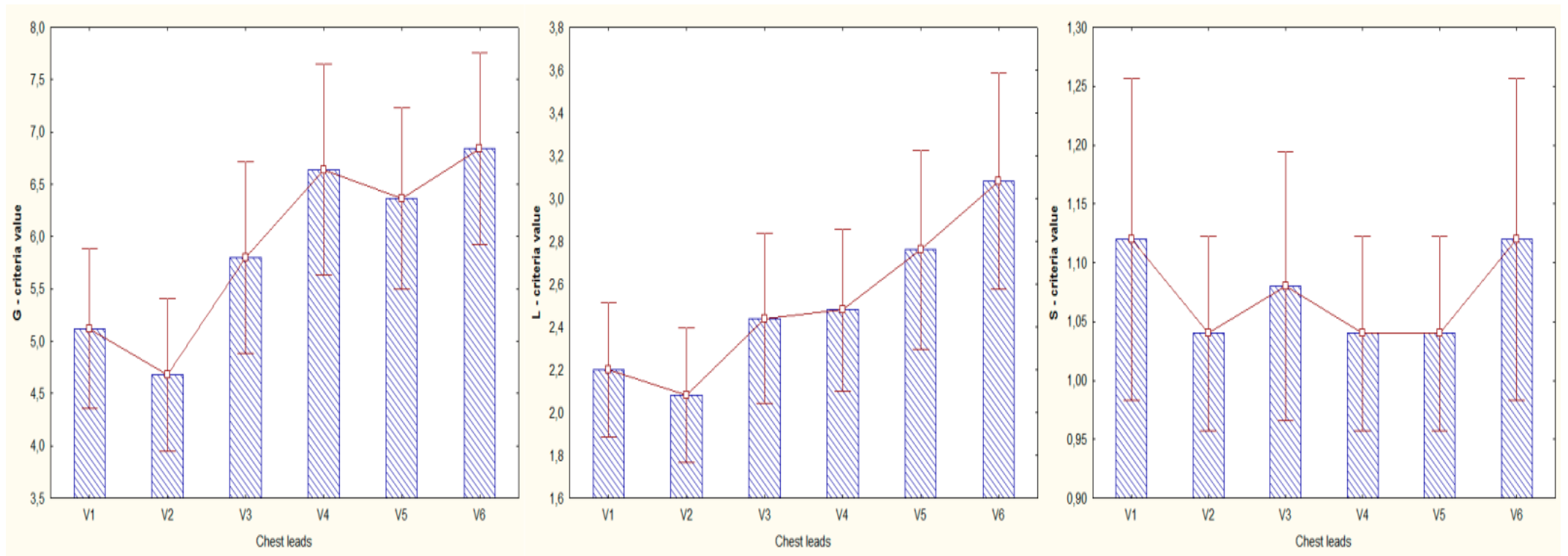


Figure 1: Patients from the first control group (n=30).

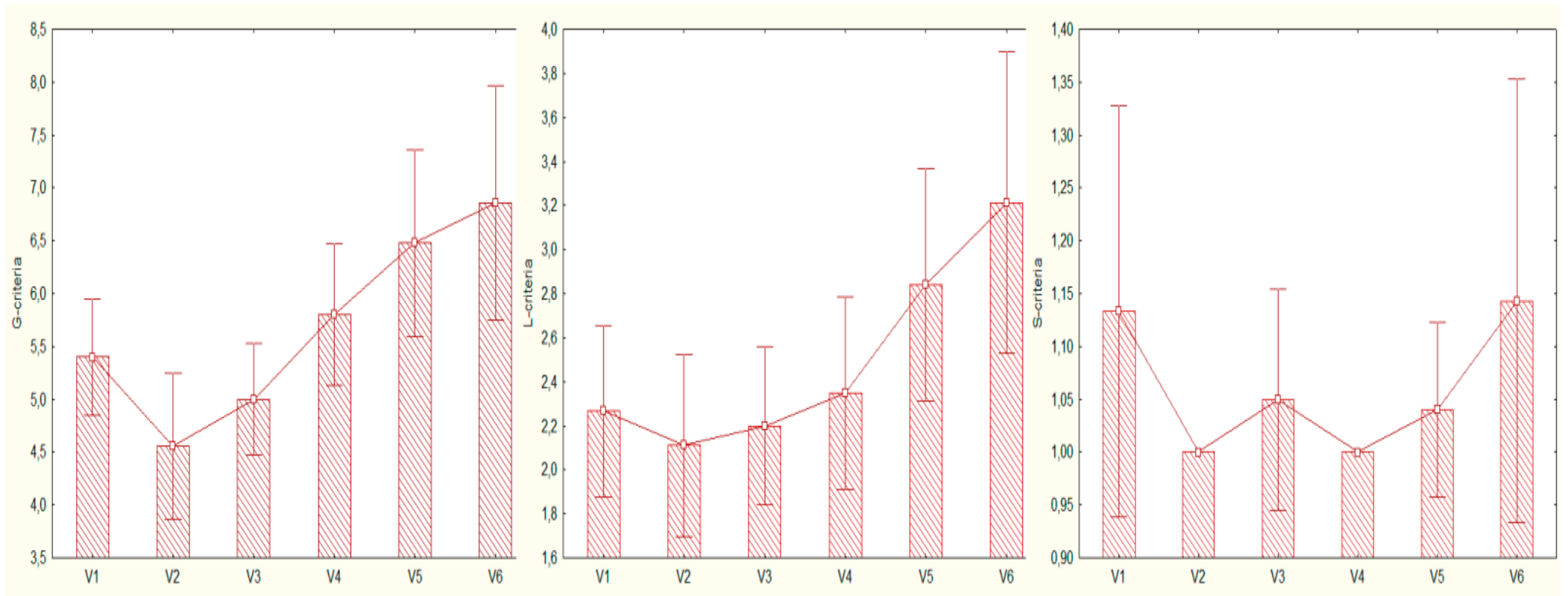


Figure 2: Patients from the second control group (n=10).

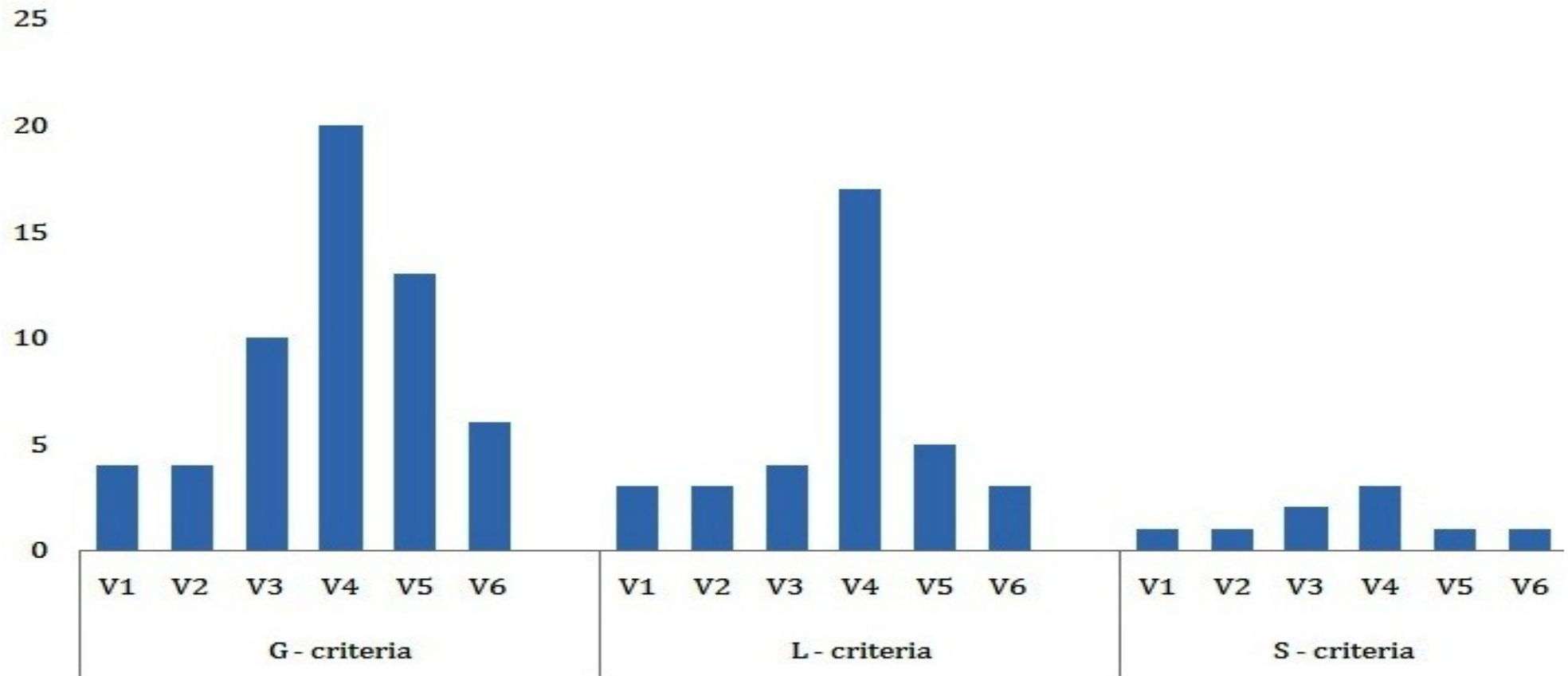


Figure 3: Patient P, 59 years old with anamnesis of MI 6 months before. The diagnosis was based on the data of clinical manifestations despite previous revascularization and medical therapy, anamnesis of MI, ECG data of repolarization abnormalities on the anterior, and lateral wall and data of coronary arteriography (stenosis of LAD 50-75%, AcM 75-95%, RCA - default).

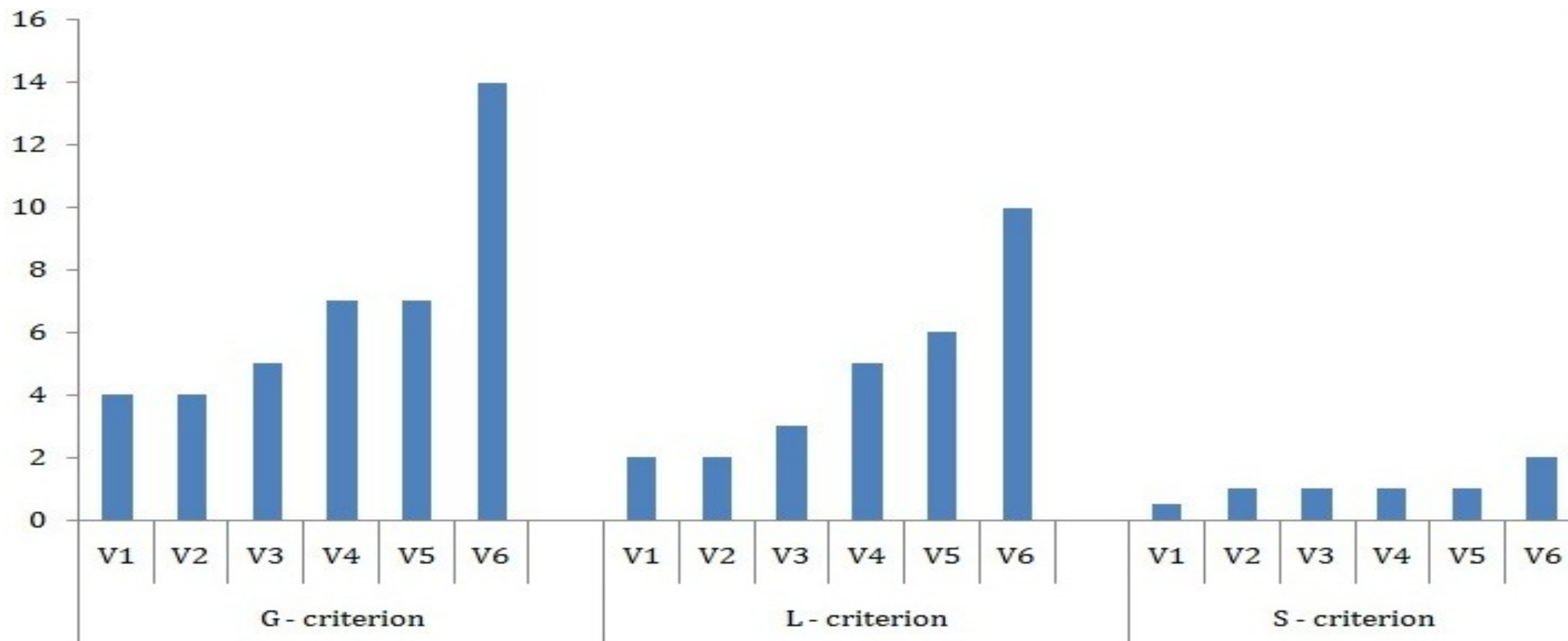


Figure 4: Patient B, 61 years old, with anamnesis of ACS 2 years ago. At that time, coronary arteriography was performed (stenosis from 70-75) with coronary revascularization in RCA with adequate dilation and positive clinical presentation. In a year, the episodes of angina caused by exertion returned. During the examination, an ST segment depression was found at about 1.5-2 mm in II, III, avF, and V5-V6 in ECG stress testing with 7-8 minutes of ischemic ST segment depression caused by physical exertion in ECG monitoring and positive stress echocardiography. In the coronary arteriography, stenosis was found in LCx - 50%, restenosis in PL - 60%, PD - 80%.

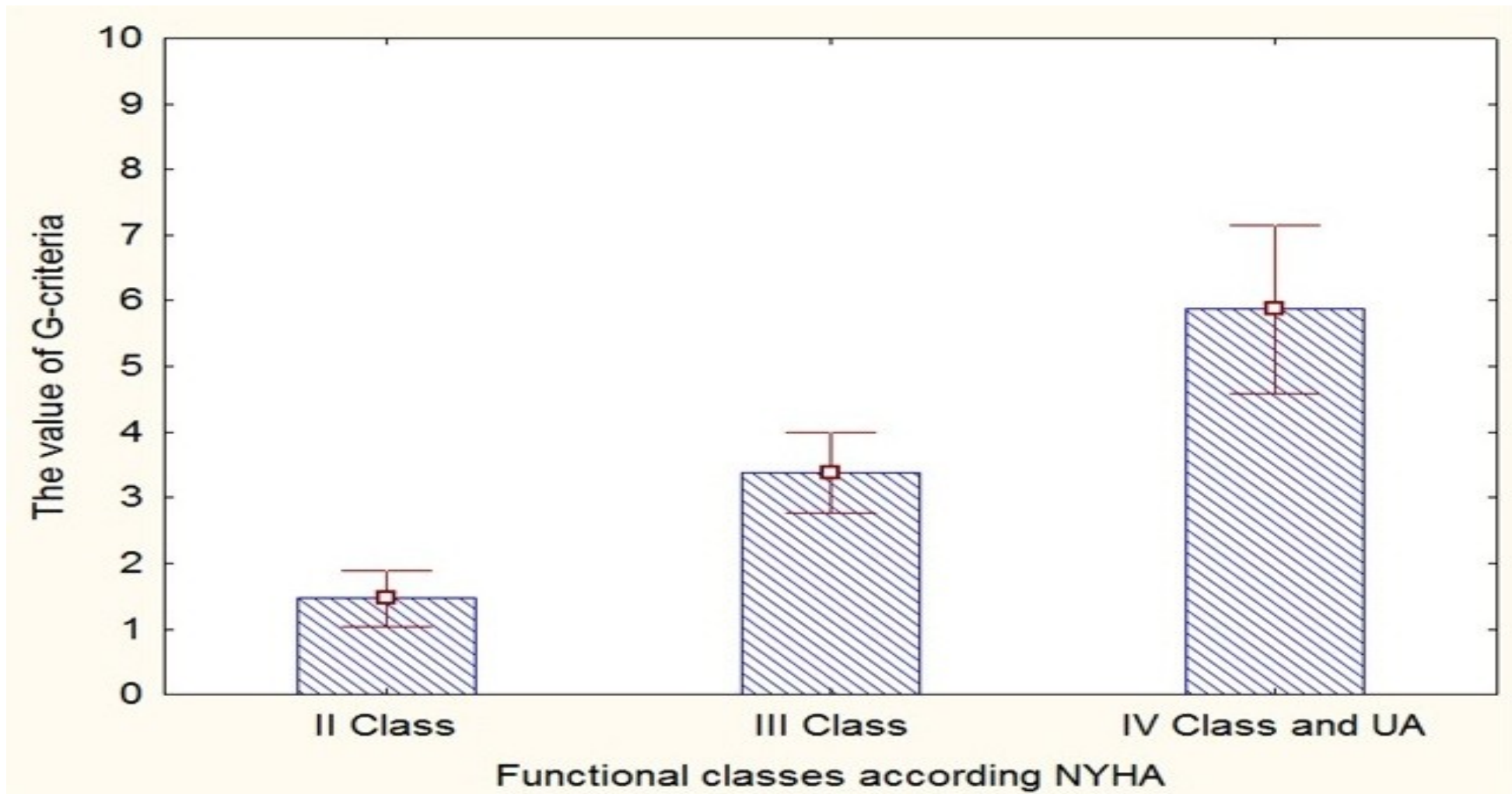


Figure 5: Functional class II (n=11), III (n=13), class IV and Unstable angina (n=8); The differences among means ($p = 0.0068$ among classes III and IV. $p < 0.001$ among classes II and III, II and IV).

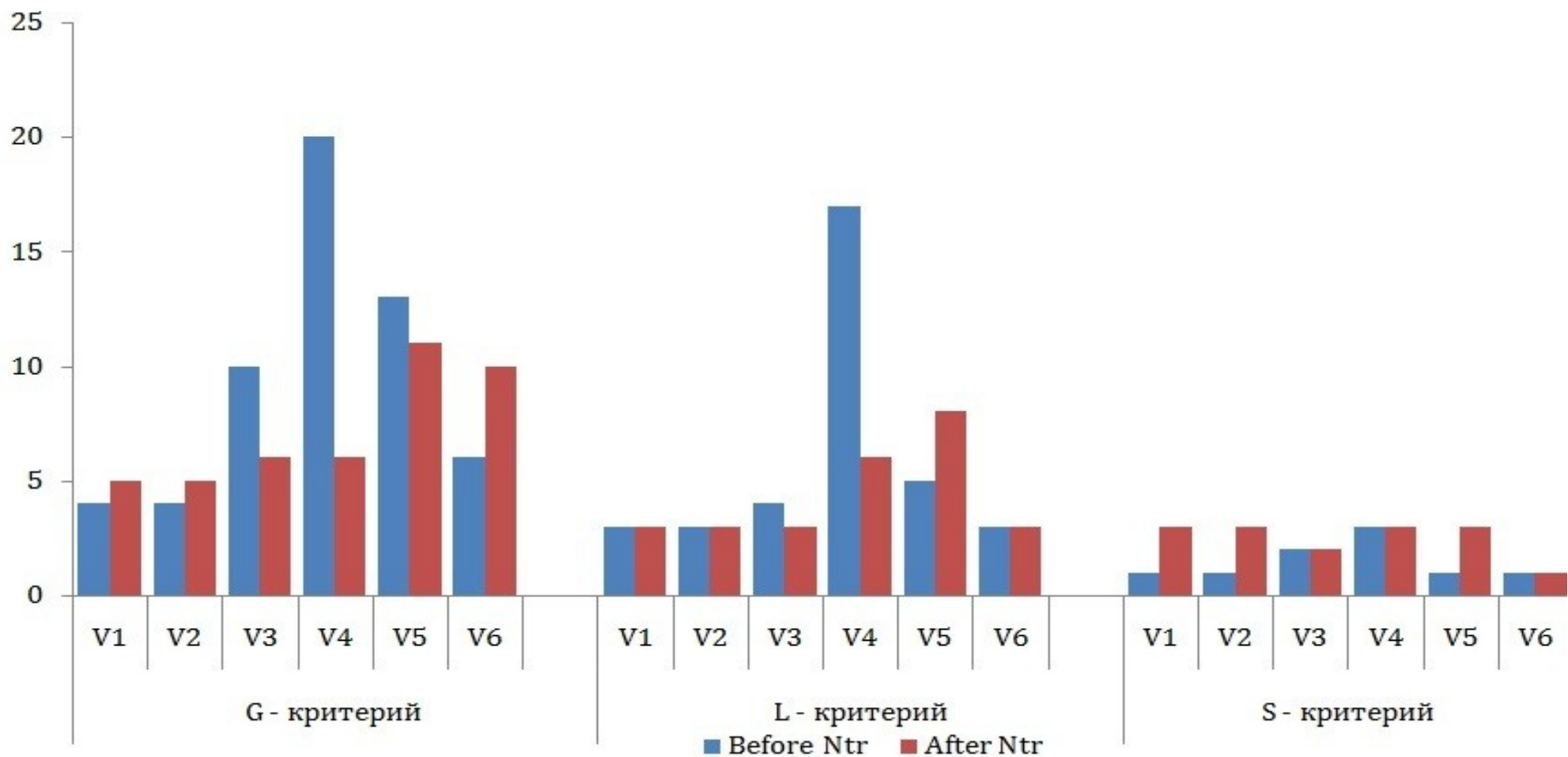


Figure 6: Patient P, 59 years old, was recorded and processed by worked-out method during episode of angina pectoris before and after administration of nitroglycerin (Ntr).

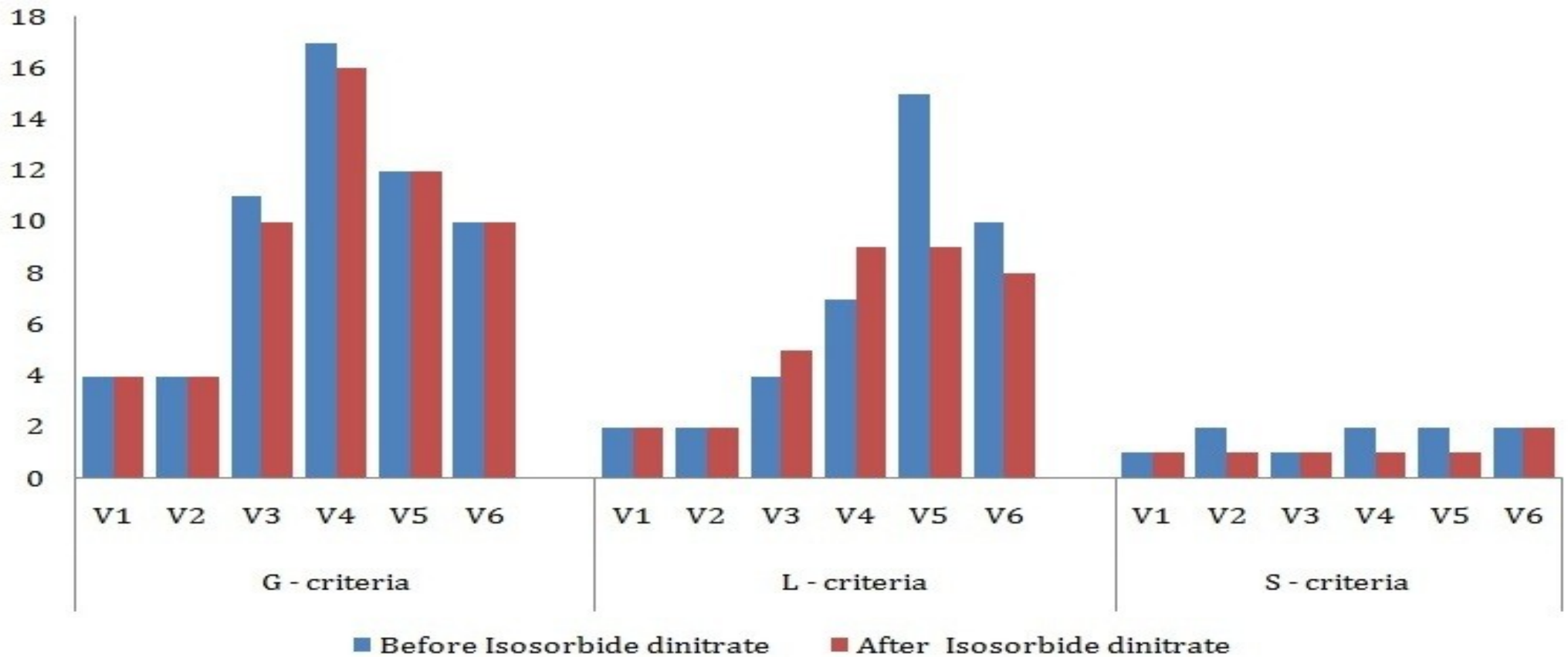


Figure 7: Patient G, 79 years old, was hospitalized in the clinic with functional class II by NYHA. In a week of hospitalization, the patient complained of high-intensity chest pain. In the ECG, the ST segment was elevated in leads V2-V4 with non-specific changes in leads V5-V6, and the biomarkers of MI were not elevated. The infusion of isosorbididinitrati was begun without positive effect in a half an hour and in an hour. In 2 hours, the biomarkers of MI were positive (Troponin I: 2.001 (3 hours later); in 6-7 hours: Troponin I: 3.024, CK-MB: 26.7). Coronary angiography indicated an emergency (stenosis of LAD – 50%, D1 – occlusion, D2 – 50%, CX – 70%, OM – 75%, RCA – 75% diffusely) with revascularization.

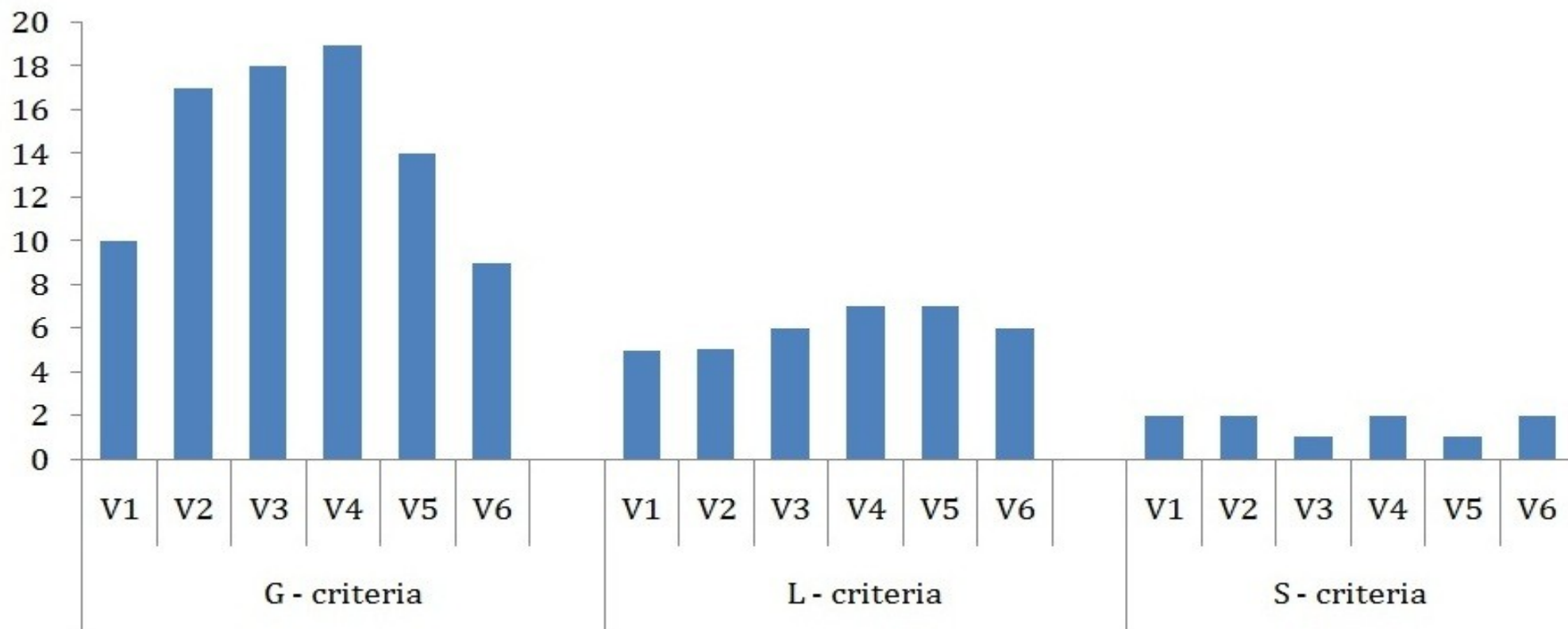


Figure 8: Patient U., 81 years old, was hospitalized with everyday episodes of chest pain and good effect of nitrates, as well as transient myocardial ischemia without evidence of coronary atherosclerosis or vasospasm in coronary angiograms. The coronary angiography was done 3 times. Syndrome X was diagnosed.

	G - criteria			L - criteria			S - criteria		
	before	after	% of change	before	after	% of change	before	after	% of change
Patient P	4	2.5	-37.50	5.6	2.6	-53.57	3	2	-33.33
Patient V	5.7	3.7	-35.09	6	2	-66.67	2	2	0.00
Patient B	3.5	2	-42.86	4	4	0.00	1	1	0.00
Patient I	5.7	3.14	-44.91	3.5	3.5	0.00	1	1	0.00
Patient F	3.5	2.3	-34.29	2.4	2.4	0.00	8	2	-75.00
Patient S *	3.1	2.75	-11.29	2	5.5	175.00	7	5	-28.57
Patient A *	2	1.6	-20.00	2	2.8	40.00	3	3	0.00
Patient G **	4.25	2.46	-42.12	7.5	2.57	-65.73	2	2	0.00

Table 1: Presented results of processing the records before and after using nitrates in the patients during angina pectoris with different effect (only patients S*, A* – negative, patient G** – negative with AMI)