Introduction: Among patients with unstable angina and myocardial infarction without ST segment elevation, about 40-60% have multivessel coronary disease. Due to the lack of specific recommendations, we decided to present a case of a young patient with acute coronary syndrome and multivessel disease.

Case report: A 36-year-old male patient was admitted to our hospital from the emergency department (ER) because of chest pain in the last 2 months, during a low level of activity. He had moderate dyslipidaemia that was not treated. On the day he was hospitalized, a treadmill test was done, with a clinical positive test, and 3 mm ST-segment depression in inferolateral leads at 6 metabolic equivalents (MET). In the ER, the standard 12-lead electrocardiogram and laboratory tests (troponin T) were normal. Echocardiography showed left ventricular ejection fraction of 55% with hypocontractility of the interventricular septum, inferior and distal part of the anterolateral wall. The same day, coronary angiography was done according to European Society of Cardiology Guidelines and revealed multivessel disease, bifurcational high significant stenosis of left anterior descending artery/first diagonal (MEDINA 1,1,1), subocclusive stenosis of strong first obtuse marginal and occlusion of right coronary artery with autocolaterals and collaterals from left coronary arteries. The patient was referred to the heart team, and complex three vessel percutaneous coronary intervention (PCI) was indicated. Coronary intervention resulted in total coronary revascularization and optimal result. Seven days after admission, the patient was discharged from our hospital.

Conclusion: The present studies suggest that multivessel coronary intervention despite a lack of impact on mortality is associated with a lower repeat revascularization rate, compared to culprit lesion PCI. According to the guidelines, decision should be made based on the patient state, lesion characteristics, and degree of myocardial damage. Due to the lack of studies, the choice between multivessel PCI and culprit PCI rests mostly on operator.