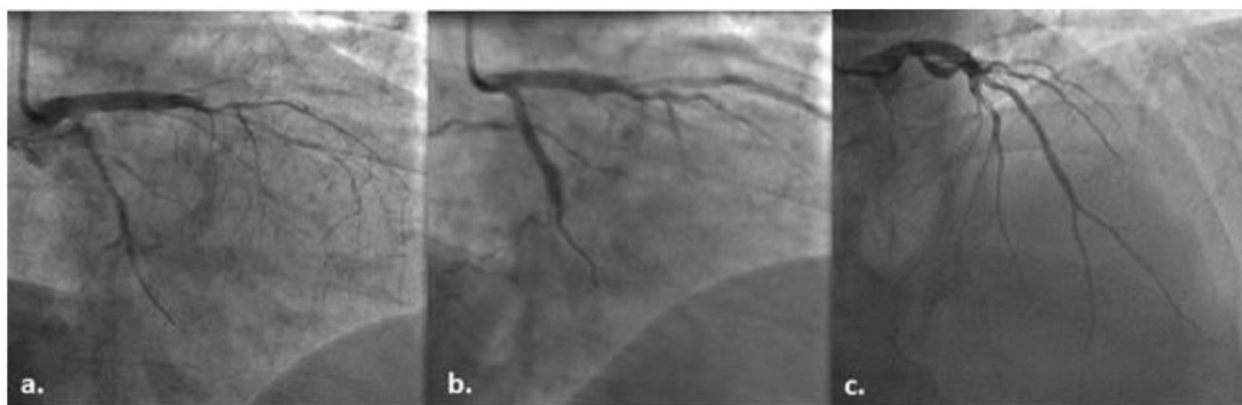


735 Myocardial ischaemia: not just about obstructive coronary arteries

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Aims: A vast proportion of subjects with anginal symptoms undergoing invasive coronary angiography (ICA) suffer from ischaemia with non-obstructive coronary arteries (INOCA). This condition has many contributing mechanisms, including epicardial vasospasm caused by vasomotor disorder, which is characterized by ST-segment changes during the self-limiting chest pain episodes. The diagnosis of this condition is challenging. Although different provocative test could be performed during ICA (e.g. intracoronary administration of acetylcholine or ergonovine), their use is uncommon. **Methods and results Clinical case:** A 39-years old man, smoker, hypertensive and dyslipidemic, presented to the emergency department after a Holter dynamic ECG detecting transient ST-segment elevation in the D1 lead. He had recurrent rest angina despite medical therapy and a prior ICA performed one year before the current presentation documented a mild stenosis of the posterior descending artery, a moderate stenosis of a duplicated left anterior descending artery, and a chronic total occlusion of the left obtuse marginal, which was not revascularized because of the absence of inducible ischaemia on single-photon emission computed tomography. The new ICA performed at presentation revealed a significant progression of coronary artery disease at the level of the posterior descending artery, which was treated through percutaneous coronary intervention, while the other vessels were unchanged. During the procedure, the patient experienced severe angina with ST-segment elevation and angiographically evident vasospasm of left coronary artery. The instantaneous wave-free ratio measurement performed on the medial branch of the duplicated left anterior descending artery was 0.86, which quickly resolved after administration of nitrate (0.93). Calcium channel blockers were added to medical therapy and the patient was discharged asymptomatic.

Conclusions: Vasospastic angina can cause ischaemia both in the presence and in the absence of visible atherosclerosis. This cause of INOCA often remains undetected but it is relatively frequent especially among younger patients who continue experiencing angina leading to repeated hospitalizations. The chance of this condition should be always taken into account, and the correct diagnosis should be obtained not incidentally like in the present case, but following standardized intracoronary test in a proper setting.



735 **Figure 1** (a) Angiographic coronary spasm during the angina. (b and c) Resolution of coronary spasm after intracoronary nitrate administration.