

CRT-P for ineffective RV pacing in variant angina

CRT-P w dławicy odmiennej przy nieskutecznej stymulacji prawokomorowej

Jarosław Chmurawa, Artur Filipecki, Katarzyna Mizia-Stec

1st Department of Cardiology, Medical University of Silesia, Katowice, Poland

A variant form of unstable angina related to an epicardial artery spasm (Prinzmetal angina) is in most cases benign under specific medications, i.e. nitrates and calcium antagonists (ACa). However, 3.5% of patients may die suddenly due to malignant ventricular arrhythmias or advanced atrioventricular (AV) block. In some patients, pacemaker implantation is required. In a 79-year-old female with a history of recurrent spontaneous angina attacks, frequently with syncope, we observed a cardiac arrest due to complete AV block with ST segment elevation in leads II, III and aVF (Fig. 1, 2). A temporary pacing was introduced (pacing threshold 1.0 V/0.5 ms). Coronary angiography revealed only non-significant (20–30%) lesions in the right coronary artery (RCA). Three hours later, a cardiac arrest episode recurred with ineffective right ventricular (RV) pacing. In repeated coronary angiography, a massive RCA spasm was shown and it was resolved with intracoronary nitroglycerine (Fig. 3). We did not observe any dislocation of temporary electrode in fluoroscopy. Typical pharmacotherapy with nitrates and ACa was introduced. Permanent pacing seemed to be reasonable, taking into account recurrent symptoms. It was possible, however, that ineffective RV pacing was due to myocardial stunning, so we decided to implant left ventricular (LV) lead into coronary sinus and use biventricular pacing from a cardiac resynchronisation therapy (CRT) device. The CRT device was set only to back-up pacing with AV delay longer than the patient's intrinsic conduction. After ten months of follow-up, the patient is asymptomatic and the system is working properly. A limitation of the study was the fact that we cannot exclude the dislodgement of the temporary wire not apparent in fluoroscopy. The asymptomatic follow-up probably is attributable to regular specific pharmacotherapy. To the best of our knowledge, this is the first case of LV pacing back-up in suspected RV myocardial stunning. 'Off-label' use of LV pacing in a case of ineffective RV pacing due to myocardial stunning can be considered in variant angina with advanced AV block.



Figure 1. ECG performed during cardiac arrest — complete AV block (arrows indicate P waves). Irregular nodal rhythm, ST elevation in II, III, aVF leads

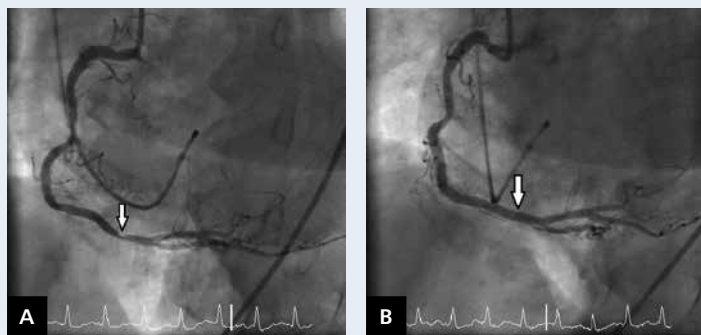


Figure 3. RCA angiography; **A.** A massive spasm of distal segments (arrow); **B.** An artery spasm (arrow) resolved by intracoronary nitroglycerine



Figure 2. A, B. ECG Holter monitoring performed immediately before cardiac arrest reveals ST segment elevation followed by advanced (2:1) AV block and then complete block (arrows indicate P waves)

Address for correspondence:

Jarosław Chmurawa, MD, 1st Department of Cardiology, Medical University of Silesia, ul. Ziolowa 45/47, 40–635 Katowice, Poland, e-mail: yaro_ch@o2.pl

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