

Arrhythmic complications during percutaneous coronary interventions

 Ivica Benko^{1,2,*},
 Gordana Hursa¹,
 Sanja Keleković¹,
 Tomislav Pijetlović¹

¹University Hospital Centre
„Sestre milosrdnice“, Zagreb,
Croatia

²University of Applied Health
Sciences, Zagreb, Croatia

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***ADDRESS FOR CORRESPONDENCE:** Ivica Benko, KBC Sestre milosrdnice, Vinogradska 29, HR-10000 Zagreb, Croatia. / Phone: +385-98-1706-082 / E-mail: ivica.benko@kbcsm.hr

ORCID: Ivica Benko, <https://orcid.org/0000-0002-1878-0880> • Gordana Hursa, <https://orcid.org/0000-0001-9118-9707>
Sanja Keleković, <https://orcid.org/0000-0003-4951-876X> • Tomislav Pijetlović, <https://orcid.org/0000-0002-4499-4428>

Percutaneous coronary interventions (PCI) have been the fastest-growing major invasive procedure in the past decade. Although PCI has many advantages, there are certain risks, including cardiac arrhythmias. It is known that myocardial ischemia and infarction leads to severe metabolic and electrophysiological changes that induce silent or symptomatic life-threatening arrhythmias. Both atrial and ventricular arrhythmias may occur during PCI procedure.¹⁻³ Arrhythmias and conduction disturbances are common during the early hours after myocardial infarction (MI) and a major cause of death in the pre-hospital phase. In STEMI patients undergoing primary PCI, ventricular arrhythmias, including non-sustained ventricular tachycardia (VT) in 26% of cases and sustained VT in 2-5% cases, have been reported. As the most lethal arrhythmia, ventricular fibrillation (VF) has been reported in 2-5% of cases. But on the other side, sustained VT occurs in 17-21% and VF even in 24-29% in patients with MI and cardiogenic shock undergoing pPCI. The occurrence of atrial fibrillation (AF) is frequently associated with severe left ventricular damage and heart failure. Episodes may last from minutes to hours and are often repetitive. In the case of cardiogenic shock, AF can quickly lead to a worsening of symptoms. High-grade AV block and asystole develop in about 23-35% of acute MI patients with cardiogenic shock, especially in the case of right coronary artery occlusion. Either ventricular or atrial arrhythmias or conduction disturbances occur as a complication of the PCI procedure, but many of them are related to reperfusion injury. The majority of the arrhythmias tend to revert spontaneously, but when necessary, special treatment must be given promptly. For nurses to be able to react properly, effective and early recognition of cardiac arrhythmias during PCI is crucial and beneficial. Also, it is important to identify changes in cardiac status and to early recognize high-risk patients for cardiac arrest, before the patient becomes symptomatic. Accuracy of cardiac rhythm interpretation improves with intermittent educational interventions. Moreover, cardiac rhythm recognition is crucial during Advance Life Support (ALS) training and it is recommended for all cardiac catheterization staff to undergo this type of training.

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LITERATURE

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