# Prvi slučaj perkutane epikardijalne ablacije ventrikulske tahikardije u bolesnika sa strukturnom bolesti srca u Republici Hrvatskoj

# The first case of epicardial ablation of ventricular tachycardia in a patient with structural heart disease in the Republic of Croatia

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**Uvod**: Od 2012. godine u Republici Hrvatskoj se uspješno provode procedure endokardijalne ablacije u bolesnika sa strukturnom bolesti srca i ventrikulskim aritmijama[1]. Radi se o perkutanim postupcima radiofrekventne ablacije u svrhu prevencije recidiva ventrikulskih aritmija. Kod jednog dijela bolesnika endokardijalna ablacija nije uspješna, budući da se ključni supstrat aritmije nalazi duboko u mezokardu ili čak subepikardijalno.

**Prikaz slučaja**: Radilo se o muškarcu starom 20 godina, „prazne" anamneze, koji se prezentirao vanbolničkim arestom, uzrokovanim ventrikulskom fibrilacijom (VF). Bolesnik je uspješno defibriliran, a nakon postupka terapijske hipotermije došlo je do potpunog neurološkog oporavka. Učinjena je široka kardiološka obrada: 12 kanalni EKG nije pokazivao znakova primarno električnih bolesti, a ehokardiografski nalaz je bio u potpunosti uredan. Koronarografski nije nađena koronarna bolest srca, a elektrofiziološkom obradom isključen je Brugada sindrom, sindrom dugog QT intervala i akcesorni put. Prije ugradnje kardioverter defibrilatora (ICD) učinjena je magnetska rezonanca srca te je utvrđen supstrat aritmije u vidu subepikardijalnih ožiljnih zona u lijevom ventriklu, vjerojatno u sklopu preboljenog miokarditisa. Uprkos više linija antiaritmičke terapije bolesnik je imao učestale recidive VF s multiplim ICD šokovima. Kako je supstrat aritmije bio jasno epikardno, odlučili smo se za perkutanu endo/epi proceduru. Zahvat je proveden u elektrofiziološkoj sali u općoj anesteziji uz invazivan hemodinamski monitoring i pripravnu kardiokiruršku službu u slučaju potrebne za hitnom torakotomijom. Subksifoidni epikardni pristup postignut je korištenjem Tuohy igle pod kontrolom dijaskopije i malih injekcija kontrasta. Multipolarnim kateterom učinjeno je supstratno mapiranje endokarda i epikarda te su definirane ciljne zone ablacije. Prije epikardne ablacije učinjena je koronarografija da bi se potvrdilo odsustvo velikih arterija u ciljnoj zoni. Sama procedura i postproceduralni tijek prošli su bez komplikacija, a u 18 mjesečnom praćenju bolesnik je bez recidiva aritmije, bez specifične antiaritmijske terapije. Zbog velike kompleksnosti procedure, do sada su ovakvi bolesnici referirani u kolegama u inozemstvo. Od nedavno, epikardijalna ablacija ventrikulskih aritmija moguća je i u centrima u Republici Hrvatskoj.

**Introduction**: Since 2012, we have successfully implemented endocardial ablation procedures in patients with structural heart disease and ventricular arrhythmias[1]. These are complex electrophysiology (EP) procedures that are used to treat recurrences of ventricular arrhythmias. However, in some patients endocardial ablation is unsuccessful, since the key substrate of arrhythmia is subepicardial.

**Case report**: We report a 20-year-old patient without previous medical history, who has survived out-of-hospital arrest, caused by ventricular fibrillation (VF). The patient was successfully defibrillated, and after the therapeutic hypothermia there was complete neurological recovery. Extensive cardiac work up followed: the 12-lead ECG did not show signs of electrical diseases, and the echocardiographic finding was completely normal. Coronarography showed no coronary artery disease and EP study excluded accessory pathway, Brugada and long QT interval syndrome. Before implanting cardioverter defibrillator (ICD), magnetic resonance was performed and a substrate of arrhythmia was found in the form of subepicardial scar zones in the left ventricle, probably a consequence of myocarditis. Despite multiple antiarrhythmic drugs, the patient had frequent recurrences of VF with multiple ICD shocks. As the substrate of arrhythmia was clearly epicardial, we opted for percutaneous endo/epi procedure. Procedure was performed in the EP room in general anesthesia with invasive hemodynamic monitoring and cardiac surgery on call in case of emergency. The subxiphoid epicardial approach was achieved using Tuohy needle with the help fluoroscopy and small contrast injections. The multipolar catheter was used for substrate mapping of the endocardial and epicardial surfaces. Hence, the target ablation zones were defined. Before epicardial ablation, coronarography was performed to confirm the absence of large arteries in the target zone. The procedure and postprocedural course were without complications, and in the 18 month follow-up the patient was without recurrence of arrhythmia, without specific antiarrhythmic therapy. Due to the high complexity of the procedure, so far these patients have been referred to colleagues overseas. Recently, epicardial ablation of ventricular arrhythmias is also possible in centers in the Republic of Croatia.

## LITERATURE

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