

Rezultati kateterske ablacije malignih ventrikulskih aritmija u bolesnika sa strukturnom bolesti srca

Results of catheter ablation of malignant ventricular arrhythmias in patients with structural heart disease

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Uvod: Od 2012. godine u Republici Hrvatskoj uspješno se provode procedure endokardijalne ablacije u bolesnika sa strukturnom bolesti srca (BS) i ventrikulskim aritmijama (VA), a od 2017. godine uvedena je perkutana epikardijalna ablacija¹. Ablacija VA u bolesnika s električnom olujom je „lifesaving“ procedura, a u drugih bolesnika značajno poboljšava kvalitetu života i smanjuje broj šokova kardioverter-defibrilatora (ICD).

Bolesnici i metode: Učinjena je retrospektivna analiza svih VA ablacija od početka programa u Kliničkom bolničkom centru Zagreb. Sve procedure provedene su elektrofiziološkoj (EP) sali uz lokanu anesteziju, dok je manjina (13,1%) je bila podvrgnuta općoj anesteziji. Za 3D navigaciju korišten je CARTO 3 sustav, a u zadnje dvije godine korišteni su multipolarni kateteri za „high density“ mapiranje. Provođeno supstratno i „pace“ mapiranje, a u manjine je bilo moguće aktivacijsko mapiranje. Za ablaciju su korišteni navigacijski kateteri s irigacijom i maksimalnim energijama 40-50W, a odnedavno su dostupne verzije s kontaktnim senzorom. Uspjeh ablacije definiran je s izostankom recidiva VA, a praćenje bolesnika provodeno je kontrolom ugrađenih ICDa.

Rezultati: Ukupno je učinjeno 38 ablacija VA u 36 bolesnika (31 muškarac, dob 59,1±12,3 godina), od čega 55,2% u ishemijskoj BS, a 44,7% u neishemijskoj BS. 3 bolesnika bolovalo je od BBRVT (*bundle branch reentrant ventricular tachycardia*). Prosječna LVED bila je 36 ± 11,8% uz LVIDD od 63,4 ± 10,5 mm. Prosječno trajanje procedure bilo je 297,1±186,6 min uz dijaskopiju od 24,6 ± 18,1 min. Na kraju procedure u 64% slučajeva postignuta je neinducibilnost ventrikulskih aritmija, a u 10,5% bolesnika nakon supstratne modifikacije provokacija nije provedena. U 2 slučaja provedena je endo/epi ablacija, a ranije je 2 bolesnika poslano je u inozemstvo radi epikardijalne ablacije. U 5% bolesnika zabilježene su komplikacije (1 AV fistula i jedna akutizacija zatajivanja srca). 45,7% bolesnika nakon ablacije imalo je recidiv VA, a za 0,8% nije dostupno praćenje. U 11,1% bolesnika u kasnijem tijeku učinjena je transplantacija srca, a kod 1 je ugrađen LVAD.

Zaključak: Sve uspješnije liječenje zatajivanja srca značajno povećava broj bolesnika kod kojih je indicirana ablacija VA. Kako ove procedure spadaju u najkompleksnije EP zahvate, rezultati ablacije daleko su od optimalnih, no rezultati ove serije bolesnika u skladu su s objavljenim rezultatima u svijetu.

Introduction: In Croatia, endocardial ablation procedures in patients with structural heart disease (HD) and ventricular arrhythmias (VA) have been successfully implemented since 2012. The method of percutaneous epicardial ablation has been introduced since 2017.¹ The ablation of VA in electric storm patients is a lifesaving procedure, and in other patients significantly improves the quality of life and reduces the number cardioverter defibrillator (ICD) shocks.

Patients and Methods: A retrospective analysis of VA ablations has been made since the beginning of the program in University Hospital Centre Zagreb. All the procedures were performed in electrophysiological (EP) room with local anesthesia, the minority (13.1%) was undergoing general anesthesia. For 3D navigation, the CARTO 3 system was used, and recently multi-polar catheter for high density mapping was used. Substrate and pace mapping was performed, and in some cases activation mapping. Irrigated navigation catheters with maximum 40-50W were used for ablation, and recently contact sensing catheters are available. Ablation success was defined as lack of VA recurrence, and patient follow-up was performed by ICD controls.

Results: A total of 38 VA ablations were performed in 36 patients (31 male, age 59.1±12.3 years), of which 55.2% in ischemic HD and 44.7% in nonischemic HD. 3 patients suffered from BBRVT (*bundle branch reentrant ventricular tachycardia*). The average LVED was 36±11.8% with LVIDD of 63.4±10.5 mm. The average duration of the procedure was 297.1±186.6 min with fluoroscopy of 24.6±18.1 min. At the end of the procedure, 64% of patients were not inducible, and in 10.5% of the patients provocation was not performed after the substrate modification of the. In 2 cases endo/epi ablation was performed, and earlier, 2 patients were sent abroad for epicardial ablation. In 5% of patients there were complications (1 AV fistula and one heart failure worsening). 45.7% of ablation patients had recurrent VA, and in 0.8% follow up is not available. In 11.1% of patients, heart transplantation was performed, and 1 was implanted with LVAD.

Conclusion: More successful treatment of heart failure significantly increases the number of patients referred for VA ablation. As these are the most complex EP procedures, ablation outcomes are far from optimal, but the results of our patient series are consistent with the published series in the world.

LITERATURE

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