TOP 10

Pulmonary vein isolation in patients with atrial fibrillation and severely dilated left atrium – is it worth it?

Jure Samardžić[1,2]*, Vedran Velagić[1,2], Vedran Pašara[2], Ivan Prepolec[2], Daniel Lovrić[2], Mislav Puljević[1,2], Borka Pezo-Nikolić[2], Ivo Planinc[2], Maja Čikeš[1,2], Davor Puljević[2], Davor Miličić[1,2]

[1]University of Zagreb, School of Medicine, Zagreb, Croatia
[2]Univeristy Hospital Centre Zagreb, Zagreb, Croatia

KEYWORDS: atrial fibrillation, pulmonary vein isolation, left atrial size, outcomes.

CITATION: Cardiol Croat. 2023;18(5-6):121. | https://doi.org/10.15836/ccar2023.121

***ADDRESS FOR CORRESPONDENCE**: Jure Samardžić, Klinički bolnički centar Zagreb, Kišpatićeva 12, HR-10000 Zagreb, Croatia. / Phone: +385-1-2388-888 / E-mail: jure.samardzic@gmail.com

ORCID: Jure Samardžić, https://orcid.org/0000-0002-9346-6402 • Vedran Velagić, https://orcid.org/0000-0001-5425-5840
Vedran Pašara, https://orcid.org/0000-0002-6587-2315 • Ivan Prepolec, https://orcid.org/0000-0001-5870-202X
Daniel Lovrić, https://orcid.org/0000-0002-5052-6559 • Mislav Puljević, https://orcid.org/0000-0003-1477-2581
Borka Pezo-Nikolić, https://orcid.org/0000-0002-0504-5238 • Ivo Planinc, https://orcid.org/0000-0003-0561-6704
Maja Čikeš, https://orcid.org/0000-0002-4772-5549 • Davor Puljević, https://orcid.org/0000-0003-3603-2242
Davor Miličić, https://orcid.org/0000-0001-9101-1570

Introduction: Pulmonary vein isolation (PVI) is a well-established method for treating paroxysmal and persistent atrial fibrillation (Afib) to maintain sinus rhythm. Left atrium size is an important factor which can determine rate/rhythm control strategy. Normal, mildly, and moderately increased left atrial volume index (LAVI) favors rhythm control. We sought to evaluate periprocedural characteristics and outcomes (freedom from Afib reccurence and effect on left atrium size) of Afib patients with severely enlarged left atria (LAVI > 48 mL/m^2) who underwent cryo PVI in our institution.

Patients and Methods: We analyzed data from our hospital's PVI registry from February 2015 to November 2021. Patients with LAVI > 48 mL/m^2 prior to PVI were enrolled in the analysis. Follow up was performed through hospital's information system to assess potential Afib reccurence and control LAVI.

Results: Out of 611 patients, 222 had no information on left atrial size. Seventeen patients (2.78%) had LAVI > 48 mL/m^2 (mean 61 mL/m^2; range 49-85 mL/m^2). Patients were mostly men (n=10; 58.8%), in persistent Afib (n=10; 59.8%) and underwent PVI in sinus rhythm (n=12; 70.6%). Mean CHADS-VASc score was 2.11 (range 1-4). Fourteen patients had preserved ejection fraction (82.3%). Mean procedure time was 69.5 min and all PV were isolated in 15 patients (88.2%). There was no significant periprocedural complications (only two patients had transient phrenic nerve palsy). Three patients were lost to both clinical and echo follow up. Median follow up of was 11.5 months (range 5-29). Only two patients had Afib reccurence. LAVI measurement in follow up was available for seven patients and was statistically lower compared to index LAVI (44.6 mL/m^2 vs 55.7 mL/m^2; p=0.03).

Conclusion: Our results indicate that PVI can be a safe and effective method to maintain sinus rhythm and reduce LAVI in selected Afib patients with severely increased left atrium.

RECEIVED:
March 26, 2023
ACCEPTED:
March 29, 2023