

## Trebaju li svi bolesnici prije kateterske ablacije fibrilacije atrijske transezofagijsku ehokardiografiju?

### Do all patients undergoing catheter ablation of atrial fibrillation need a pre-procedural transesophageal echocardiography?

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**Uvod:** Izolacija plućnih vena (PVI) zlatni je standard za katetersku ablaciju fibrilacije atrijske (FA). Trenutno važeće Smjernice *European Heart Rhythm Association* preporučuju da svi bolesnici prije kateterske ablacije fibrilacije atrijske budu adekvatno antikoagulirani minimalno tri tjedna prije postupka.<sup>1</sup> Prema preporukama, svim bolesnicima s visokim rizikom od tromboembolijskih incidenata ili u FA treba učiniti transezofagijsku ehokardiografiju (TEE). Ostaje nejasno treba li TEE učiniti bolesnicima s niskim tromboembolijskim (TE) rizikom i koji su u sinusnom ritmu. Cilj ove studije je odrediti incidenciju tromba u lijevoj aatriji (LAT) u bolesnika neposredno prije postupka PVI, neovisno o njihovom TE riziku.

**Pacijenti i metode:** U studiju su uključeni svi bolesnici hospitalizirani zbog planirane PVI na Zavodu aritmije i postkoronarnu skrb Kliničkog bolničkog centra Sestre milosrdnice u Zagrebu u razdoblju od siječnja 2013. do svibnja 2016. godine. Prema protokolu, svim je bolesnicima prije postupka učinjen TEE. Rizik TE incidenta izračunat je za svakog pojedinog bolesnika koristeći CHA2DS2VASc zbroj.

**Rezultati:** U studiju je uključen ukupno 241 bolesnik (srednje dobi 59 ± 11; 76 % muškarci). Ukupna incidencija LAT je bila 39/241 (16,18 %). Kao što je prikazano u **tablici 1**, 129 bolesnika imalo je nizak TE rizik (CHA2DS2VASc 0 ili 1), a u 18 bolesnika (18/129; 13,95 %) te skupine je verificiran LAT (18/39; 46,15 % od svih bolesnika s verificiranim trombom u svim rizičnim skupinama). 12 niskorizičnih bolesnika s verificiranim trombom je bilo adekvatno antikoagulirano, a 8 ih je bilo u sinusnom ritmu. U 6 bolesnika niskog rizika koji su bili u sinusnom ritmu i adekvatno antikoagulirani verificiran je LAT (4,5 % niskorizičnih bolesnika, 2,4 % ukupnog broja bolesnika). Nije bilo razlike u pojavnosti tromba između skupina bolesnika s niskim i visokim rizikom (13,95% vs 18,75%, p= 0.29).

**Zaključak:** Budući da se pojavnost tromba u lijevoj aatriji prati u svim rizičnim skupinama, čak i kod bolesnika s niskim TE rizikom, smatramo da je preproceduralni TEE (ili

**Background:** Pulmonary vein isolation (PVI) is a cornerstone of catheter ablation of atrial fibrillation (AF). Current European Heart Rhythm Association Guidelines suggests that all patients undergoing catheter ablation should be anticoagulated for three weeks prior the procedure.<sup>1</sup> All patients with high thromboembolic (TE) risk or in AF should undergo transesophageal echocardiography (TEE) to exclude left atrial thrombus (LAT). Whether patients with low TE risk (estimated with CHA2DS2VASc score) who are in sinus rhythm need TEE routinely remains unclear. The aim of our study was to determine the incidence of LAT in patients undergoing PVI regardless of their risk for TE event.

**Patients and Methods:** Patients hospitalized at the Department of Arrhythmology, University Hospital Center "Sestre milosrdnice" Zagreb from January 2013 to May 2016 undergoing PVI were included in the study. Following routine protocol all patients underwent a pre-procedural TEE to exclude LAT. The TE risk was calculated for each patient using a CHA2DS2VASc score.

**Results:** A total of 241 consecutive patients (mean age of 59±11 years, 76% male) were included in the study. The overall incidence of left atrial thrombus was 39/241 (16.18%). As shown in **Table 1**, 129 patients had CHA2DS2VASc score 0 or 1 (low TE risk) and 18 of them (18/129; 13.95%) had LAT detected (46.15% of all patients with thrombi). 12 patients with LAT in a low TE risk group were adequately anticoagulated while 8 of them were in sinus rhythm. There were 6 low TE risk patients who were adequately anticoagulated and were in sinus rhythm who had LAT (4.5% of low risk patients, 2.4% of all patients). There was no difference in the LAT incidence between the low and high risk groups (13.95% vs 18.75%, p= 0.29).

**Conclusion:** Due to the presence of thrombi in all TE risk groups, even in patients with a low TE risk who were in sinus rhythm and were adequately anticoagulated, TEE (or other imaging modality) could be routinely performed in all

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druga dijagnostička slikovna metoda) indicirana svim bolesnicima prije PVI. Nedostaci ove studije su relativno mali broj bolesnika, nestandardizirani protokoli praćenja bolesnika na varfarinu i relativno mali broj bolesnika na novim antikoagulansima.

patients prior to planned PVI to exclude LAT. The main limitations of the study are relatively small number of patients, lack of standardized follow up of patients with vitamin K antagonists and small proportion of patients on novel anticoagulants. Also, INR data for some patients are lacking which could have influenced the results significantly.

**TABLE 1. Incidence of left atrial thrombus in different thromboembolic risk groups.**

CHA2DS2-VASc	Number of patients	Number of patients with thrombus	%
0	57	7	12.28
1	72	11	15.28
2	52	8	15.38
3	43	8	18.60
4	7	1	14.2
5	5	3	60
6	0	0	0
7	5	1	20
<b>Total</b>	<b>241</b>	<b>39</b>	<b>16.18</b>

**LITERATURE**

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