Comparative Study of Oral Anticoagulation in Left Ventricular Thrombi (No-LVT Trial)

On behalf of the No-LVT Trial investigators presented by:

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Disclosure

- **All the authors declare no conflict of interest.**
- **No funding was received.**

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Background & Study Rationale

- **Left ventricular thrombi are associated with increased risk of systemic thromboembolization with its major clinical consequences especially cerebrovascular stroke.**
- **For decades, they were treated by Vitamin K antagonists (VKA) such as Warfarin.**
- **Although Direct oral anticoagulants (DOACs) use is currently approved for nonvalvular atrial fibrillation but their efficacy and safety in the treatment of LV thrombi is limited to case reports and small case series.**

Background & Study Rationale

PubMed Search term

↓ Full text

Resolution of left ventricular thrombus by rivaroxaban.

Padilla Pérez M, et al. Future Cardiol. 2014.

Show full citation

European Heart Journal

ESC European Society of Cardiology

P964

Role of rivaroxaban in left ventricular thrombi

A Almaghraby, M Abdelnaby, O Abdelkarim, Y Saleh, B Hammad, H Badran

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Aim of the study

Our study is the first randomized controlled study to assess different oral anticoagulants in the treatment of LVT.

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Patients & Methods

- The Comparative Study of Oral Anticoagulation in Left Ventricular Thrombi (No-LVT) was an investigator-initiated, prospective, open-label, multicenter, randomized controlled clinical trial. Patients were recruited from five tertiary hospitals in Egypt and Bulgaria.
- The trial was prospectively registered at the Clinical Trials Registry, and the study protocol is available online at (https://clinicaltrials.gov/ct2/show/NCT03926780).

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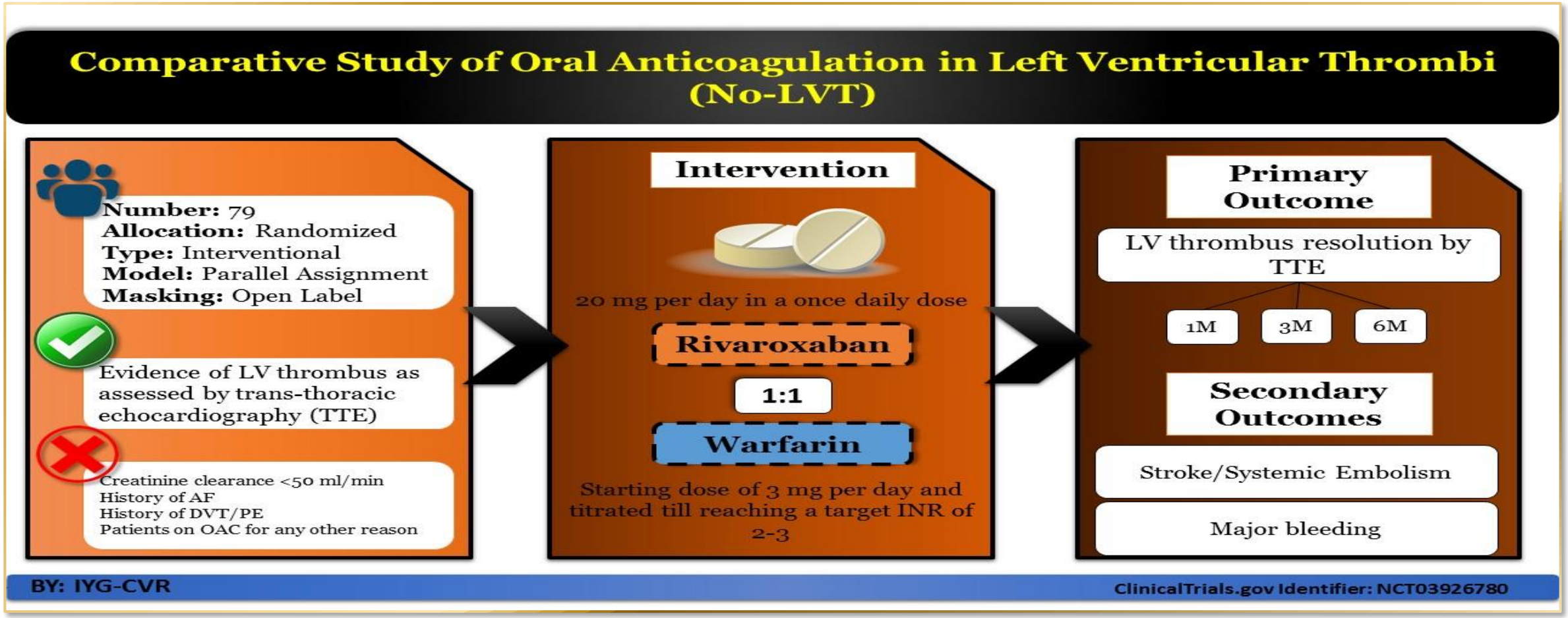
Patients & Methods



Infographic representation of the study design

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Results

Baseline characteristics of the included patients

Characteristic	Rivaroxaban (n=39)	Warfarin (n=40)	P-value
Demographic Data			
Age	49.13±12.31	50.07±12.87	0.739
Sex (Male)	21 (53.8%)	24 (60%)	0.581
Risk Factors			
Diabetes Mellitus	23 (59%)	19 (47.5%)	0.307
Hypertension	23 (59%)	19 (47.5%)	0.307
Smoking	20 (51.3%)	22 (55%)	0.741
Dyslipidemia	22 (56.4%)	16 (40%)	0.144
Stroke	1 (2.6%)	2 (5%)	0.571
Etiology			
Ischemic	33 (84.6%)	29 (72.5%)	0.190
Idiopathic	5 (12.8%)	11 (27.5%)	0.105
Others (peripartum)	1 (2.6%)	0 (0%)	0.308
Baseline Echocardiogram			
Ejection fraction (%)	36.11±6.12	37.01±5.31	0.09
LV thrombus size (mm)	16.1±4.5X11.5±2.4	16.1±4.6X11.5±2.7	0.91
Data is represented in Number (Percentage) or mean ± standard deviation			

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Results

Primary and secondary endpoints in both groups

Characteristic	Rivaroxaban (n=39)	Warfarin (n=40)	P-value	95% CI for difference in proportion (Rivaroxaban Versus Warfarin)
1-month follow-up TTE				
LV thrombus resolution	28 (71.79%)	19 (47.5%)	0.03*	3.3%, 45.2%
3-month follow-up TTE				
LV thrombus resolution	30 (76.92%)	27 (67.5%)	0.35	-10.2%, 29.1%
6-month follow-up TTE				
LV thrombus resolution	34 (87.17 %)	32 (80%)	0.39	-9.1%,23.4%
Complications				
Major Bleeding	2 (5.1 %)	6 (15 %)	0.11	-23.9%,3.2%
Stroke	0 (0%)	4 (10%)	0.04*	-19.3%, -0.7%
Other Thromboembolic	0 (0%)	2 (5 %)	0.25	-11.7%, 1.8%
Composite (Stroke and embolic)	0 (0%)	6 (15%)	0.01*	-26.1%, -3.9%

Data is represented in Number (Percentage)
CI: Confidence Interval, LV: Left Ventricle, TTE: Transthoracic Echocardiography

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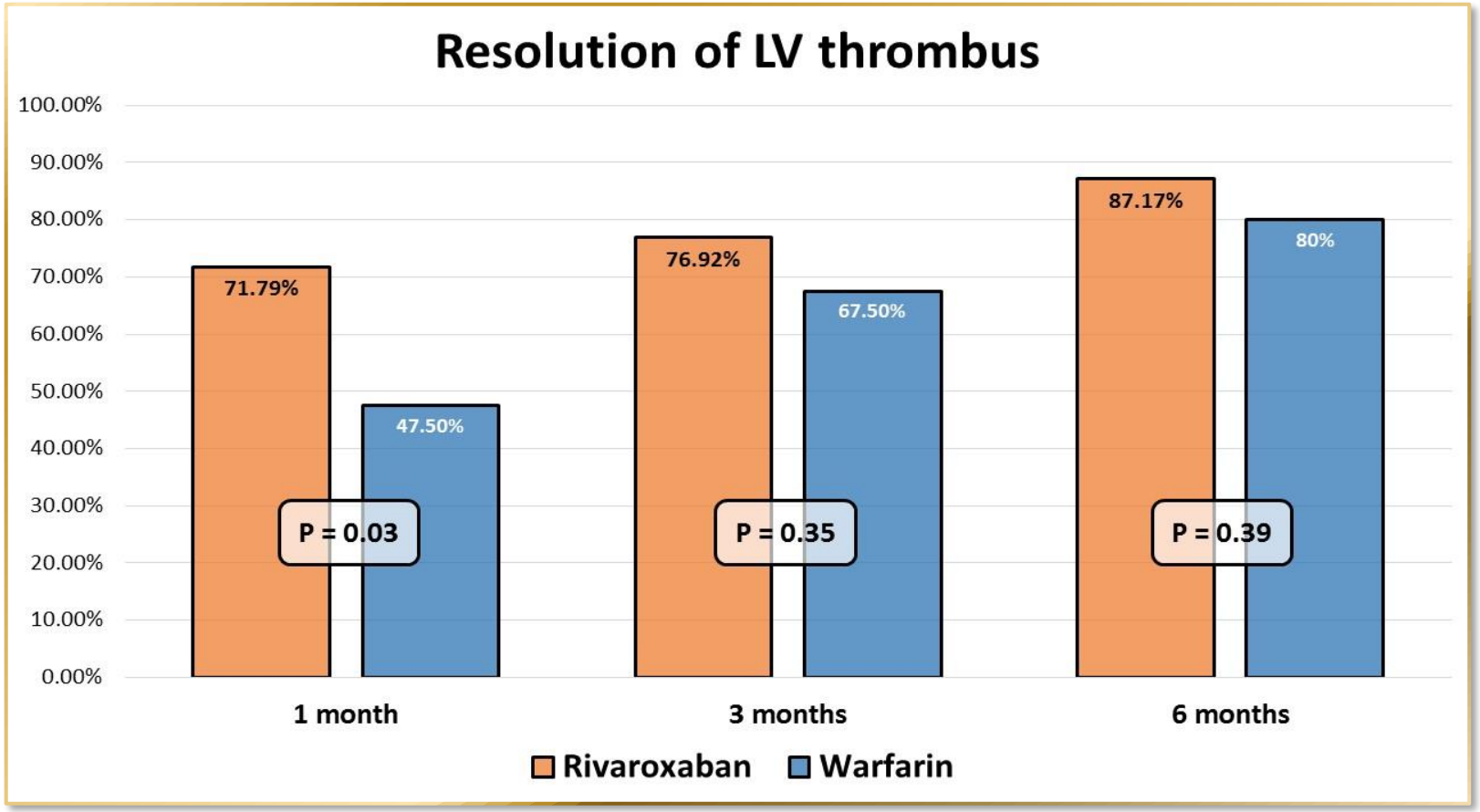
Results



Graphical representation of the LVT resolution in both groups

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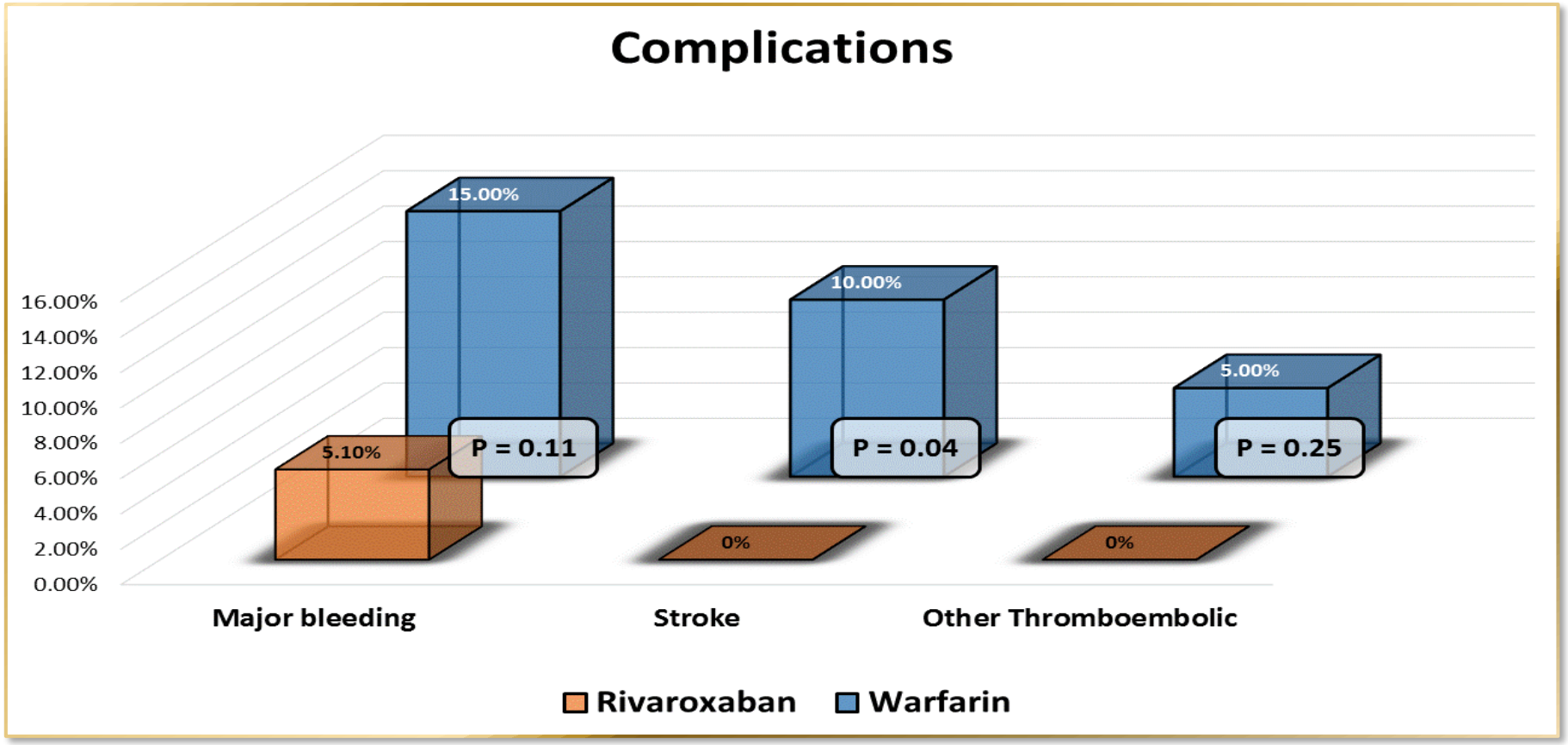
Results



Graphical representation of the incidence of complications in both groups

Limitations

- **The study was unblinded.**
- **It included a relatively small number of patients.**
- **LVT were evaluated by TTE which has limited sensitivity in LVT detection.**

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Conclusions

- **The No-LVT trial is the 1st randomized control trial to compare VKA with rivaroxaban in the treatment of LVT.**
- **The No-LVT trial showed that in comparison to dose-adjusted warfarin, rivaroxaban had a significantly higher LVT resolution at 1-month follow-up. However, there was no significant difference between both groups at 3 and 6 months.**
- **Rivaroxaban had a significantly lower rate of stroke in comparison to warfarin at 6 months follow-up without an increased risk of major bleeding.**

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No-LVT Investigators

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Thank You