

# EFFICACY AND SAFETY OF PERCUTANEOUS LEFT ATRIAL APPENDAGE CLOSURE IN CHRONIC KIDNEY DISEASE PATIENTS WITH ATRIAL FIBRILLATION: RESULTS OF A 7-YEAR REGISTRY

Miguel Bigotte Vieira<sup>1</sup>; Miguel Nobre Menezes<sup>2</sup>; Ana Rita Francisco<sup>2</sup>; Cláudia Jorge<sup>2</sup>; Pedro Carrilho Ferreira<sup>2</sup>; Luís Carpinteiro<sup>2</sup>; Eduardo Infante De Oliveira<sup>2</sup>; Pedro Canas Da Silva<sup>2</sup>; António Gomes Da Costa<sup>1</sup>; Fausto J. Pinto<sup>2</sup>;  
 1 - Centro Hospitalar Lisboa Norte, Serviço de Nefrologia e Transplantação Renal, Lisboa, Portugal;  
 2 - Hospital Universitário de Santa Maria, CHLN, CAML, CCUL, Faculdade de Medicina, Serviço de Cardiologia, Lisboa, Portugal;

## Introduction

Atrial fibrillation (AF) is the most common sustained cardiac arrhythmia, the most devastating complication being thromboembolism leading to fatal or disabling stroke. Although oral anticoagulation (OAC) is the mainstay of prevention therapy in the general population, its benefit in chronic kidney disease (CKD) patients is less well defined. End-stage renal disease patients treated with vitamin K antagonists present increased risk of bleeding, accelerated cardiovascular calcification and increased risk of calciphylaxis. Left atrial appendage closure (LAAC) is performed to prevent complications in high-risk AF patients with contraindications to OAC and in AF patients with events despite OAC.

## Objective

To evaluate the efficacy and safety of LAAC in CKD patients with AF.

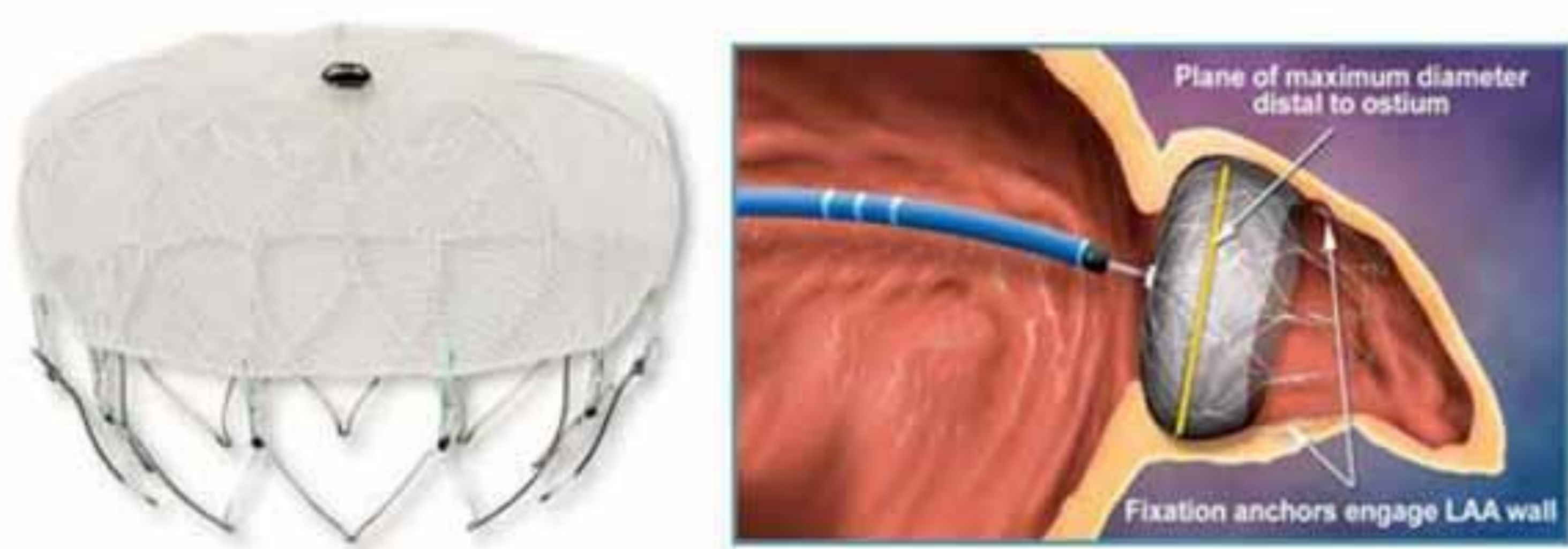


Figure 1 – WATCHMAN® device for left atrial appendage closure

## Methods

- Single-center registry of consecutive patients submitted to percutaneous LAAC. All patients underwent a standardized clinical follow-up.
- The procedure details, complications, CHA<sub>2</sub>DS<sub>2</sub>-VASc and HAS-BLED scores were registered.
- We used the PROTECT-AF trial efficacy composite endpoint defined as the occurrence of stroke, cardiovascular death or systemic embolic events.
- We used the PROTECT-AF trial safety composite endpoint defined as the occurrence of procedure-related complications and major bleeding events.
- CKD patients were defined as patients with estimated glomerular filtration rate below 60 ml/min/1.73 m<sup>2</sup> (CKD-EPI).
- Statistical analysis - Mann-Whitney U test, chi-square test, Cox univariate analysis and Kaplan-Meier survival analysis.

## Results

Table 1 – Baseline characteristics of the patients

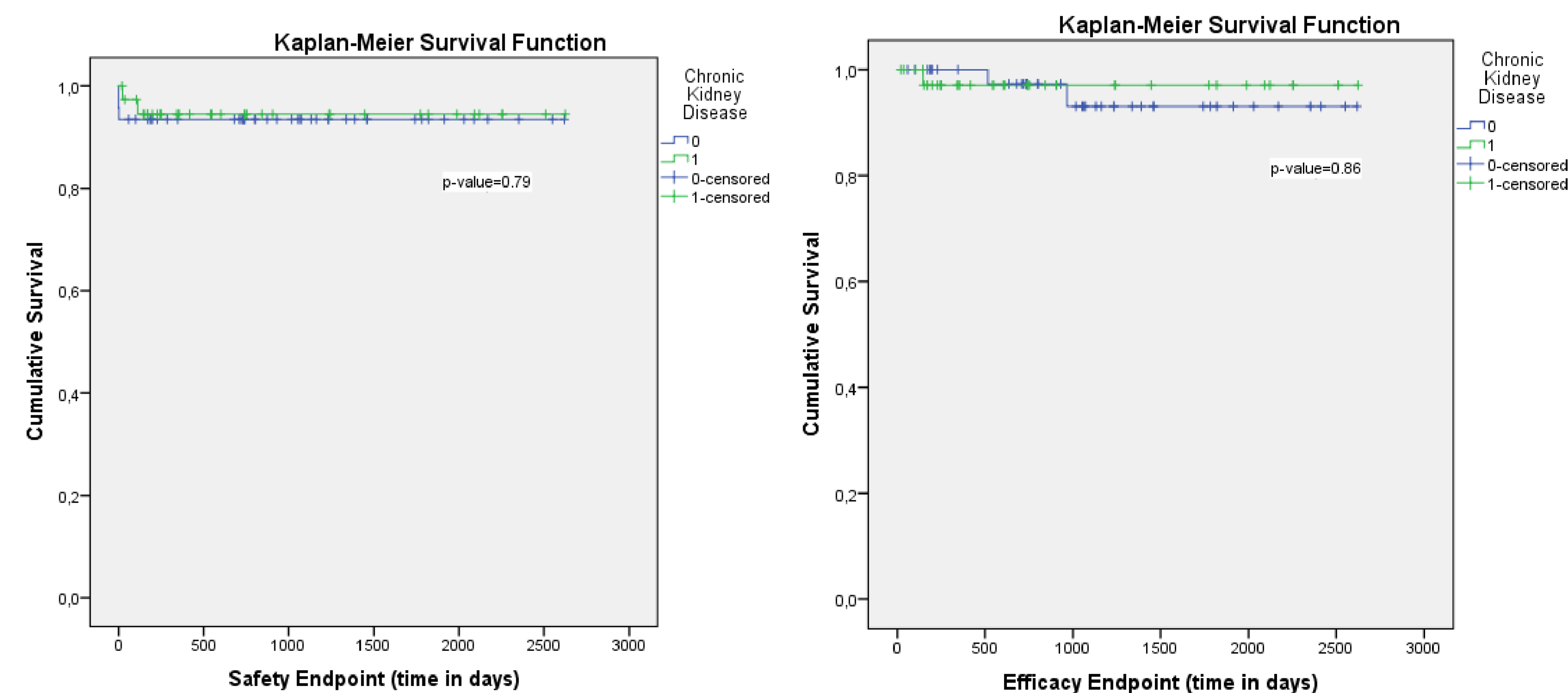
	Non-CKD patients (n=53)	CKD patients (n=39)	P value
Age, mean ± SD	72.4 ± 6.8	75.1 ± 6.2	0.02
Male, n (%)	35 (62.1)	24 (56.4)	0.27
Heart failure, n (%)	15 (28.3)	17 (43.6)	0.26
Hypertension, n (%)	45 (85.0)	39 (100)	0.27
Diabetes Mellitus, n (%)	13 (24.5)	12 (30.8)	0.75
Previous stroke, n (%)	21 (39.6)	19 (48.7)	0.71
CHA <sub>2</sub> DS <sub>2</sub> -VASc, mean ± SD	3.9 ± 1.3	4.7 ± 1.3	<0.001
HAS-BLED, mean ± SD	3.2 ± 0.8	3.6 ± 0.7	0.047

CKD – Chronic kidney disease; SD – standard deviation

Table 2 – Outcomes of the patients

	Non-CKD patients (n=53)	CKD patients (n=39)	P value
Composite efficacy endpoint	2	1	0.86
Stroke	2	1	0.86
Cardiovascular death	0	0	N/A
Embolic events	0	0	N/A
Composite safety endpoint	3	2	0.79

CKD – Chronic kidney disease; Stroke



Mean Follow-up = 959 ± 752 days

## Conclusion

Percutaneous LAAC in CKD patients presented, in our cohort, similar outcomes to non-CKD patients. The procedure can be considered as a treatment option in this population.

## References

- David R Holmes, Vivek Y Reddy, Zoltan G Turi, et al. Percutaneous closure of the left atrial appendage versus warfarin therapy for prevention of stroke in patients with atrial fibrillation: a randomised non-inferiority trial. *Lancet* 2009; 374: 534–42.
- David R. Holmes JR, Saibal Kar, Matthew J. Price, et al. Prospective Randomized Evaluation of the Watchman Left Atrial Appendage Closure Device in Patients With Atrial Fibrillation Versus Long-Term Warfarin Therapy The PREVAIL Trial. *Journal of the American College of Cardiology*. Vol. 64, No 1, 2014

