

# Patients with reflex syncope have a higher prevalence of atrial fibrillation than general population which is predicted by the type of the tilt table test response

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## Introduction

Reflex syncope is the result of an imbalance between the sympathetic and parasympathetic nervous system. The autonomic nervous system has been associated to some forms of atrial fibrillation (AF).

## Methods

We retrospectively studied consecutive patients submitted to a tilt table test at our institution between 2016 and 2019. We excluded patients with a previously implanted pacemaker and patients followed in a different institution. We selected those patients with a positive test. We analysed the clinical characteristics and the tilt table test results.

## Results

We studied 49 patients out of 71. Seven patients had previously diagnosed paroxysmal AF at the time of the tilt table test (14.3%). Patients with AF were older, had more frequently hypertension, and had more frequently a vasodepressor than mixed or cardioinhibitory response to the tilt table test (71.4% vs. 28.6%) (Table). A vasodepressor response was associated with AF (OR 6.25, 95% CI 1.06 – 36.74,  $p = 0.043$ ). Age and hypertension were also associated with AF, respectively, OR 1.08 (95% CI 1.01 – 1.17),  $p = 0.034$  and OR 10.80 (95% CI 1.19 – 98.36),  $p = 0.035$ . However, on the multivariate analysis, none of the studied variables was independently associated with AF diagnosis.

Patient characteristics	All patients (n = 49)	No AF (n = 42)	AF (n = 7)	p-value
Age in years, median (IQR)	63.0 (39.0 – 72.0)	54.0 (36.8 – 69.0)	77.0 (70.0 – 81.0)	0.002
Male gender, n (%)	21 (42.9)	18 (42.9)	3 (42.9)	>0.999
Diabetes mellitus, n (%)	3 (6.1)	3 (7.1)	0 (0.0)	>0.999
Overweight/obesity, n (%)	28 (57.1)	23 (54.8)	5 (71.4)	0.683
Hypertension, n (%)	21 (42.9)	15 (35.7)	6 (85.7)	0.033
Alcohol abuse, n (%)	1 (2.0)	1 (2.4)	0 (0.0)	>0.999
OSA, n (%)	2 (4.1)	2 (4.8)	0 (0.0)	>0.999
Chronic kidney disease, n (%)	3 (6.1)	2 (4.8)	1 (14.3)	0.377
LVEF in %, median (IQR)	60.0 (58.0 – 62.0)	60.0 (58.3 – 62.0)	58.0 (55.1 – 62.0)	0.392
LAV in mL/m <sup>2</sup> , median (IQR)	27.3 (22.6 – 33.5)	26.2 (21.9 – 33.0)	31.0 (26.0 – 34.0)	0.219
Type of response Vasodepressor / Mixed or Cardioinhibitory, n / n (% / %)	17 / 32 (34.7 / 65.3)	12 / 30 (28.6 / 71.4)	5 / 2 (71.4 / 28.6)	0.041

## Objective

The aim of this study was to assess the prevalence of AF in patients with reflex syncope and a positive tilt table test and to identify the type of tilt test response in patients with AF in comparison to patients without AF.

## Conclusion

Patients with reflex syncope and a positive tilt table test had a higher prevalence of AF than the general population. A vasodepressor response was associated with the diagnosis of AF as were age and hypertension, demonstrating the possible impact of the autonomic nervous system and the multifactorial nature of AF.