

# The Role of Left Atrial Enlargement on Detection of Atrial Fibrillation with Insertable Cardiac Monitors: Insights from the CRYSTAL AF Study

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## Background

Trials are underway to investigate whether prophylactic oral anticoagulation is superior to aspirin for recurrent stroke prevention among patients with cryptogenic stroke and atrial cardiopathies, such as left atrial enlargement. We investigated the relationship between left atrial enlargement and atrial fibrillation (AF) detected by insertable cardiac monitors (ICM).

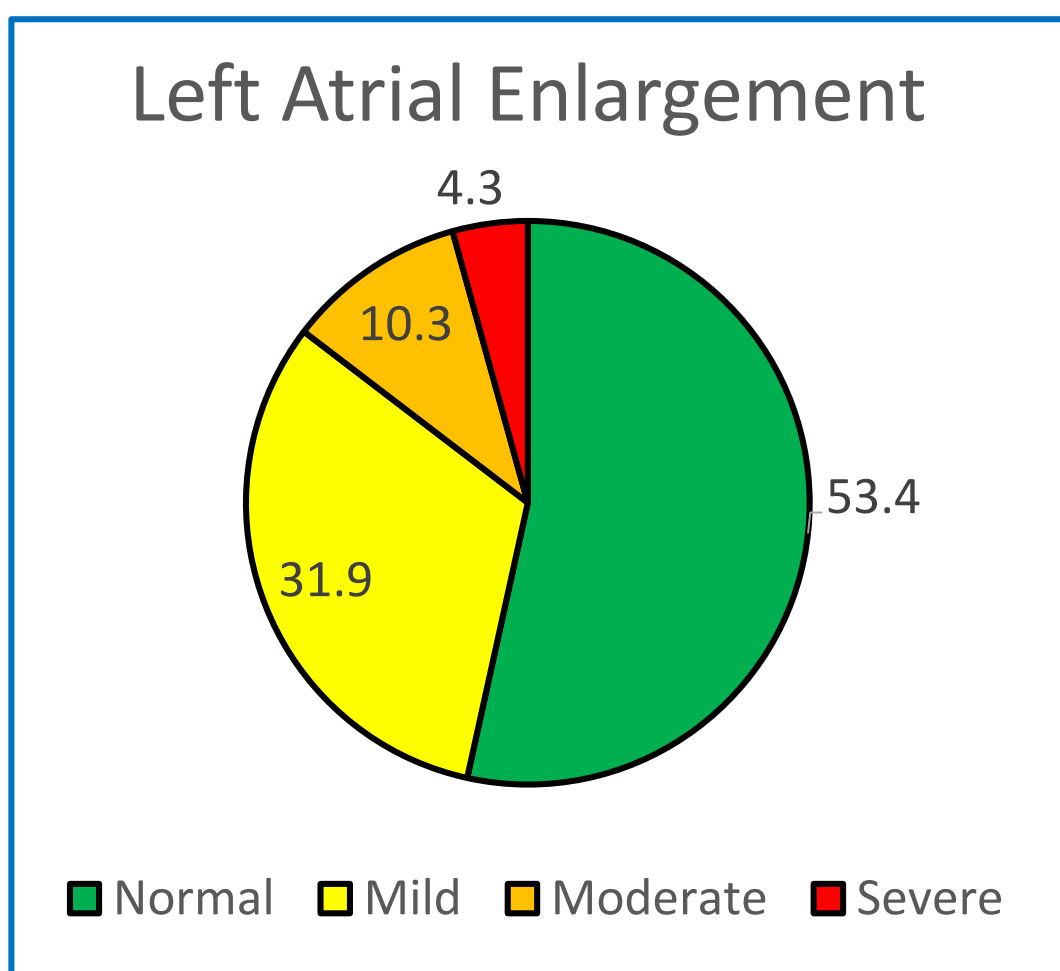
## Methods

Cryptogenic stroke patients with ICMs from the CRYSTAL AF study were included. Left atrial enlargement was classified as normal, mild, moderate, or severe based on gender and left atrial diameter measurements as shown in Table 1. We assessed the percentage of patients with AF detected who had normal/mild vs. moderate/severe left atrial enlargement and analyzed the prevalence of AF according to left atrial enlargement classification.

**Table 1:** Classification of Left Atrial Enlargement

Left Atrium Size <sup>[8]</sup>	Women				Men			
	normal	enlarged			normal	enlarged		
		mild	moderate	severe		mild	moderate	severe
<b>Diameter (mm)</b>	27–38	39–42	43–46	≥47	30–40	41–46	47–52	≥52

**Figure 1:** Distribution of Left Atrial Enlargement



## Results

A total of 116 ICM patients (60.8±11.4 years, 68% male) with left atrial enlargement data available were included and followed for 21.3±8.5 months. Left atrial enlargement was defined as normal, mild, moderate, and severe in 53.4%, 31.9%, 10.3%, and 4.3% of patients, respectively (Figure 1). Among the 25 patients with AF detected, 76% had normal/mild left atrial enlargement and 24% had moderate/severe left atrial enlargement. AF prevalence increased with left atrial enlargement severity (p=0.13, Cochran-Armitage Trend Test – Figure 2) but never reached a majority of patients.

## Conclusions

Most cryptogenic stroke patients with AF did not have appreciable left atrial enlargement. Although AF prevalence increased with left atrial enlargement severity, only a minority with even the most severe left atrial enlargement had AF detected. Therefore, prophylactic oral anticoagulation in patients with left atrial enlargement may not be an effective stroke prevention strategy.

**Figure 2:** Prevalence of AF According to Degree of Left Atrial Enlargement

