

Long-Term Cardiovascular Outcomes of Obese and Extremely Obese Patients Following Atrial Fibrillation Ablation

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Background: Obesity is prevalent in patients undergoing AF catheter ablation; however long-term association with cardiovascular (CV) mortality and hospitalization after AF ablation is unknown.

Objective: To examine long-term CV and non-CV mortality and hospitalization among obese patients undergoing AF ablation.

Methods: We retrospectively reviewed 830 consecutive patients undergoing AF ablation at a tertiary medical center from 2013 to 2019 and assessed mortality and hospitalization during a median follow-up of 819 days. Obesity and extreme obesity were defined as a BMI 30-39.9 and ≥ 40 kg/m², respectively. A multivariate model adjusting for CHA₂DS₂-VASc score and obstructive sleep apnea (OSA) history was performed.

Results: The mean age was 62 years and 68% were male. Obese patients (n=493, 59%) had a higher CHA₂DS₂-VASc score and a greater prevalence of OSA. Compared to the non-obese, obese patients had a significantly higher non-CV mortality and hospitalization rate (adjusted HR [AHR] 1.46, 95% CI 1.03-2.10; P=0.03). However, CV outcomes were not significantly different between the two groups (AHR 1.15, 95% CI 0.90-1.46; P=0.26). In a subgroup analysis of 111 (13.4%) extremely obese patients as compared to 382 (46%) obese patients, risks of CV (AHR 1.08; P=0.68) and non-CV adverse outcomes (AHR 1.12; P=0.64) were similar, Figure.

Conclusion: Obesity and extreme obesity are not associated with increased CV mortality or hospitalization following AF ablation. Non-CV events are a major cause of adverse outcomes among obese patients; the identification and optimization of non-CV comorbidities may improve long-term outcomes following AF ablation.

Fig 1B: Cumulative Non-CV mortality and hospitalization
BMI <30 vs. BMI ≥30, log-rank P=0.005
BMI 30-39.9 vs. BMI ≥40, log-rank P=0.49

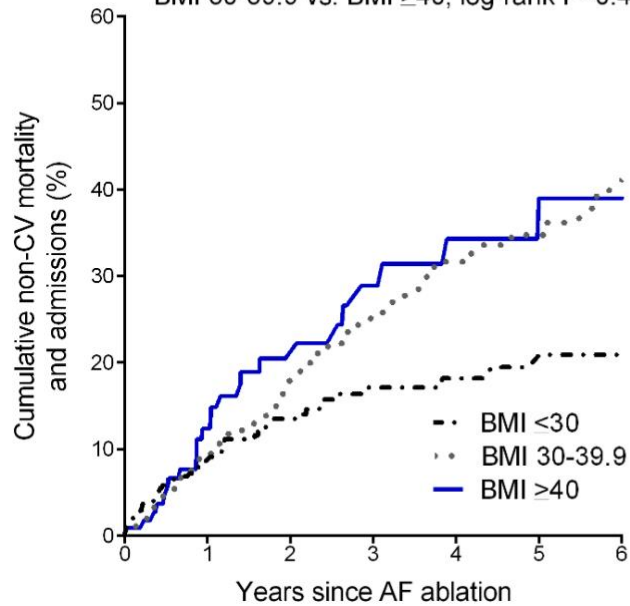


Fig 1A: Cumulative CV mortality and hospitalization
BMI <30 vs. BMI ≥30, log-rank P=0.16
BMI 30-39.9 vs. BMI ≥40, log-rank P=0.66

