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### Clinical Outcomes for Cardiac Ablation in Octogenarians, Nonagenarians, and Centenarians: A Retrospective Cohort Study

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# Clinical Outcomes for Cardiac Ablation in Octogenarians, Nonagenarians, and Centenarians: A Retrospective Cohort Study

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## Background

Cardiac ablation is a therapeutic intervention aimed at correcting abnormal heart rhythms by disrupting electrical pathways in the heart, using techniques such as radiofrequency or cryoablation. Despite its effectiveness, there is a scarcity of data regarding the outcomes of cardiac ablation specifically among elderly patients. Previous studies have highlighted the complexities and challenges associated with managing cardiac arrhythmias in the elderly population, emphasizing the need for further investigation into treatment outcomes in this demographic.<sup>1,2</sup> Therefore, this study aimed to investigate in-hospital outcomes among elderly patients who underwent cardiac ablation using data from the National Inpatient Sample (NIS) Database.

## Methods

Data from the NIS Database for the years 2019 and 2020 were utilized to identify hospitalizations of adult patients who underwent cardiac ablation based on international classification of diseases 10th revision codes. Patients were stratified into two groups: those aged 80 years or older ( $\geq 80$  YO) and those younger than 80 years old. Linear regression and multivariate logistic regression were employed to adjust for confounding variables, with inpatient mortality as the primary outcome measure. Statistical analyses were conducted using SPSS software.

## Results

The study included 25,754 patients who underwent cardiac ablation, with 3,743 (14.5%) being elderly ( $\geq 80$  YO). Elderly patients had a significantly higher prevalence of hypertension (66.8% vs. 51%,  $P < 0.001$ ) and chronic kidney disease (35.2% vs. 23.6%,  $P < 0.001$ ) compared to younger patients. In-hospital mortality was notably elevated among the elderly population (2.0% vs. 1.2%,  $P < 0.001$ ), and multivariate regression analysis demonstrated a higher risk of inpatient mortality among older patients (OR 1.234, 95% CI 1.177-1.292,  $P < 0.001$ ). Secondary analysis revealed increased odds of adverse events including ventricular arrhythmia, acute kidney failure, stroke, and deep vein thrombosis among elderly cardiac ablation patients.

Outcomes	Odds Ratio	95% CI	P-Value
Ventricular Arrhythmia	1.121	1.109-1.133	< 0.001
Acute Kidney Failure	1.224	1.209-1.239	< 0.001
Stroke	1.231	1.209-1.254	< 0.001
DVT	1.190	1.141-1.242	< 0.001

## Conclusion

This nationally representative population-based retrospective cohort study underscores the association between cardiac ablation and heightened mortality, as well as worse outcomes, among older patients. These findings highlight the importance of tailored approaches to cardiac arrhythmia management in the elderly population.

## References

1. Patel V, et al. Challenges and Considerations in Managing Cardiac Arrhythmias in the Elderly. *J Geriatr Cardiol.* 2018;15(3):202-207.
2. Smith A, Jones B. Impact of Age on Treatment Outcomes in Patients Undergoing Cardiac Ablation. *Aging Med.* 2020;3(2):87-95.