Rowan University

Rowan Digital Works

Rowan-Virtua Research Day

28th Annual Research Day

May 2nd, 12:00 AM

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

Tony Elias *Rowan University*

Mena Elmalh Rowan University

Kyrillos Girgis Newark Beth Israel Medical Center

Michael Valderrama
Virtua Health

Rafail Beshai *Jefferson Health NJ*

Follow this and additional works at: https://rdw.rowan.edu/stratford_research_day

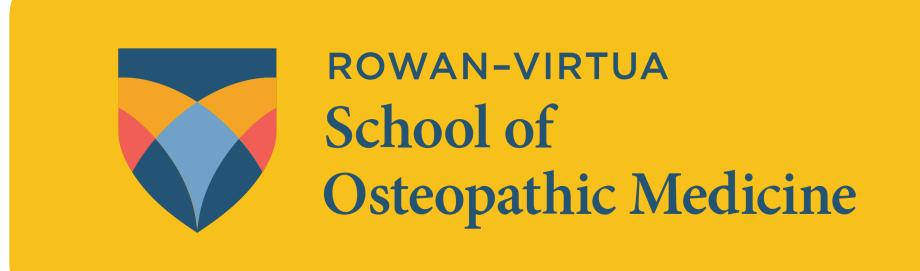
Part of the Cardiology Commons, Cardiovascular Diseases Commons, Geriatrics Commons, Health and Medical Administration Commons, Health Services Research Commons, Pathological Conditions, Signs and Symptoms Commons, Surgical Procedures, Operative Commons, and the Therapeutics Commons

Let us know how access to this document benefits you - share your thoughts on our feedback form.

Elias, Tony; Elmalh, Mena; Girgis, Kyrillos; Valderrama, Michael; and Beshai, Rafail, "Clinical Outcomes for Cardiac Ablation in Octogenarians, Nonagenarians, and Centenarians: A Retrospective Cohort Study" (2024). *Rowan-Virtua Research Day.* 70.

https://rdw.rowan.edu/stratford_research_day/2024/may2/70

This Poster is brought to you for free and open access by the Conferences, Events, and Symposia at Rowan Digital Works. It has been accepted for inclusion in Rowan-Virtua Research Day by an authorized administrator of Rowan Digital Works.



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

Tony Elias¹, Mena Elmalh¹, Kyrillos Girgis MD², Michael Valderrama MD³, Rafail Beshai DO⁴
(1) Rowan-Virtua School of Osteopathic Medicine (2) Beth Israel Newark IM (3) Virtua IM (4) Jefferson NJ IM

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.^{1,2} 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 (≥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 (≥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.