

## Beyond the Scalpel: A Comparative Analysis of Left Atrial Incisions and their Surgical Outcomes

Estelle Démoulin<sup>1\*</sup>, Dionysios Adamopoulos<sup>2</sup>, Tornike Sologashvili<sup>1</sup>, Mathieu van Steenberghe<sup>1</sup>, Jalal Jolou<sup>1</sup>, Haran Burri<sup>2</sup>, Christoph Huber<sup>1</sup>, Mustafa Cikirikcioglu<sup>1</sup>

<sup>1</sup>Division of Cardiovascular Surgery, University Hospitals of Geneva, Geneva, Switzerland; <sup>2</sup>Division of Medical Specialties, University Hospitals of Geneva, Geneva, Switzerland

### ABSTRACT

This concise commentary on our original study published in January 2024, explores postoperative disparities in left atrial incisions. Analysing three atriotomy approaches, we noted variations in hospital stays, emphasizing the significance of surgical techniques in patient recovery. Our study highlights personalized surgical decisions based on preoperative data. Despite diverse atriotomy approaches, rhythm outcomes remain consistently unaltered, suggesting the chosen approach may not significantly impact overall rhythm prognosis. In summary, our brief commentary sheds light on postoperative disparities and emphasizes the personalized nature of surgical decisions, contributing valuable insights to cardiac surgery.

**Keywords:** Mitral valve surgery; Perioperative period; Postoperative period; Atriotomy; Complications; Permanent pacemaker

### INTRODUCTION

Our study [1] delves into mitral valve surgeries from 2010 to 2020, favouring conventional direct left atriotomy over underused alternatives like superior septal and transseptal left atriotomies. Inclusion criteria covered independent mitral valve surgeries or those combined with other procedures.

Among three groups (conventional direct, transseptal and superior septal), results showed minimal variance in mitral valve disease aetiology, except for a higher endocarditis incidence in group 3.

Group 1 favoured elective surgeries and isolated mitral procedures with shorter aortic clamping and cardiopulmonary bypass durations, while group 3 involved more emergency procedures with extended hospital stays. Permanent pacemaker implantation, postoperative complications, and mortality showed no significant differences among the groups.

Our findings resonate with Masuda et al., (1996) [2], and Aydin et al., [3], as conventional direct left atriotomy emerges as the preferred

choice for isolated mitral valve operations. In contrast, transseptal left atriotomy demonstrated advantages in combined mitral and tricuspid valve interventions. Examining superior septal atriotomy, often linked to emergency procedures, we identified increased endocarditis cases, contributing to prolonged intensive care unit and hospital stays-observations echoing Turkyilmaz and Kavala's [4], insights. Intriguingly, despite anatomical complexities, no significant differences surfaces in postoperative complications among the three incision types, aligning with broader literature.

While the impact of incisions on arrhythmic complications is a topic of debate [5,6], our study hints at a trend towards pacemaker implantation with superior septal left atriotomy. Notably, factors like the Maze procedure and tricuspid valve surgeries, known for rhythm disturbances, showed no significant differences among the three atriotomies. These nuanced insights underscore the intricate interplay between pathology, surgical intervention, and our deliberate choice of incision, forming the basis of our commentary on this comprehensive examination.

**Correspondence to:** Estelle Démoulin, Division of Cardiovascular Surgery, University Hospitals of Geneva, Geneva, Switzerland, E-mail: demoulinestelle@gmail.com

**Received:** 01-May-2024, Manuscript No. JCEC-24-29550; **Editor assigned:** 03-May-2024, PreQC No. JCEC-24-29550 (PQ); **Reviewed:** 16-May-2024, QC No. JCEC-24-29550; **Revised:** 24-May-2024, Manuscript No. JCEC-24-29550 (R); **Published:** 31-May-2024, DOI: 10.35248/2155-9880.24.15.885

**Citation:** Démoulin E, Adamopoulos D, Sologashvili T, Steenberghe M, Jolou J, Burri H, et al. (2024) Beyond the Scalpel: A Comparative Analysis of Left Atrial Incisions and their Surgical Outcomes. *J Clin Exp Cardiol*. 15:885.

**Copyright:** © 2024 Démoulin E, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

## CONCLUSION

In conclusion, our study reveals a significant divergence in postoperative hospital stays across the three atriotomy approaches, highlighting the personalized selection of atriotomy based on preoperative data. This underscores the importance of individual patient characteristics in guiding surgical decisions. Intriguingly, despite diverse atriotomy approaches, we observed a surprising consistency in rhythm outcomes, both pre and postoperatively, implying a uniformity that transcends the chosen approach. This finding suggests that the selected approach may not markedly influence overall rhythm prognosis. This consistency is promising, affirming the reliability and predictability of rhythm-related outcomes, irrespective of the chosen atriotomy. In essence, our comparison illuminates postoperative disparities, emphasizing the personalized nature of surgical decisions and revealing a robust pattern in rhythm outcomes, contributing valuable insights to the evolving landscape of cardiac surgery.

## REFERENCES

1. Démoulin E, Adamopoulos D, Sologashvili T, van Steenberghe M, Jolou J, Burri H, et al. Comparison of perioperative and postoperative outcomes among 3 left atrial incisions: Conventional direct, transseptal, and superior septal left atriotomy. *Tex Heart Inst J.* 2024;51(1):238162.
2. Masuda M, Tominaga R, Kawachi Y, Fukumura F, Morita S, Imoto Y, et al. Postoperative cardiac rhythms with superior septal approach and lateral approach to the mitral valve. *Ann Thorac Surg.* 1996;62(4):1118-1122.
3. Aydin E, Arslan A, Ozkokeli M. Comparison of superior septal approach with left atriotomy in mitral valve surgery. *Rev Bras Cir Cardiovasc.* 2014;29:367-373.
4. Turkyilmaz S, Kavala AA. Comparison of left atriotomy and superior transseptal approaches in mitral valve surgery. *Heart Surg Forum.* 2018;21(4):E318-E321.
5. Cox JL, Ad N, Churyla A, Malaisrie SC, Pham DT, Kruse J, et al. The maze procedure and postoperative pacemakers. *Ann Thorac Surg.* 2018;106(5):1561-1569.
6. Mahboobi SK, Ahmed AA. Tricuspid Valve Repair. *StatPearls.* 2022.