

The evolving paradigm of Heart Team: challenges and opportunities

El paradigma en evolución del Heart Team: desafíos y oportunidades

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A paradigmatic shift in cardiovascular care has been observed in recent years, driven by the advent of novel technologies, techniques, and therapies. The introduction of these innovations has yielded significant improvements in the quality of life and survival rates of patients with cardiovascular diseases.

Nevertheless, despite these advancements, decision-making in cardiovascular care remains a complex and multifaceted issue, often characterized by a lack of transparency and effective communication among healthcare professionals, patients, and their families. This can lead to suboptimal decision-making and, in some cases, adverse outcomes.

In response to these challenges, the concept of the Heart Team has emerged as a multidisciplinary approach aimed at enhancing coordination and communication among healthcare professionals to inform personalized decision-making for each patient.

This editorial will provide an in-depth examination of the Heart Team concept and its significance in contemporary cardiovascular care, highlighting the benefits and challenges of this approach and exploring strategies for improving transparency and communication in decision-making in cardiovascular care.

The Heart Team concept emerged in response to the need for a multidisciplinary approach in the SYNTAX trial, which evaluated patients with complex multivessel coronary artery disease who were potential candidates for both complete revascularization via percutaneous coronary intervention (PCI) and coronary artery bypass grafting (CABG).¹ In the context of aortic valve disease, the Heart Team initially focused on assessing whether inoperable or high-risk surgical patients were suitable candidates for transcatheter aortic valve replacement (TAVR), considering vascular access safety and valvular anatomy suitability. Notably, the strategy has shifted from a balanced approach between PCI and CABG to a paradigm that prioritizes TAVR over surgical aortic valve replacement (SAVR), except in cases where TAVR is not viable or safe.^{2,3}

According to the 2021 ESC/EACTS European guidelines for valvular heart disease (VHD), all interventions for cardiac valvulopathies should be performed in a Heart Valve Center. A Heart Valve Center is a center of excellence that must provide optimal care for treating cardiac valvulopathies. To achieve this, it must have departments of cardiology and cardiac surgery with 24/7 service and an experienced Heart Team comprising cardiologists, surgeons, imaging specialists, and

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anesthesiologists. Notably, while the European guidelines emphasize the importance of the Heart Team in treating cardiac valvulopathies, they do not specify a class of recommendation for its participation as such.² In 2020 ACC/AHA American guidelines for VHD, the class of recommendation is I, level of evidence C.³ In contrast, the current recommendation for Heart Team participation in the context of coronary artery disease (CAD) is class I, level of evidence B-NR.⁴

Therefore, although the conceptualization of the Heart Team has been well-established, the effective implementation of the Heart Team remains the responsibility of each individual institution. However, this autonomy can lead to significant variability in the way the Heart Team is implemented, potentially impacting the quality and efficacy of care provided. Indeed, the composition of the Heart Team has undergone modifications. Initially, evaluation for TAVR required the participation of two cardiac surgeons, in addition to the cardiovascular surgeon. Nevertheless, over time, this requirement was relaxed, allowing for only one surgeon to be involved in the evaluation.⁵

Notwithstanding the aforementioned advancements, a critical limitation has been the inherent subjectivity and referral-physician dependency in determining clinical equipoise, which constitutes a profound obstacle to evidence-based decision-making.⁶

In this issue, Calderón et al.⁷ present a case that illustrates the importance of adhering to evidence-based principles in clinical decision-making. Nevertheless, the optimal exercise of medical judgment necessitates the integration of current guidelines and best practices, facilitated by the collaborative participation of a seasoned and multidisciplinary Heart Team, thereby ensuring the most informed and effective decision-making outcomes, such as demonstrated by Calderón et al.⁷

The greatest challenge lies in ensuring that the Heart Team is a genuine multidisciplinary ensemble of specialists, boasting extensive experience in the realm of valvular heart disease, encompassing both surgical and clinical expertise,

as well as imaging proficiency. To mitigate the risks of bias and malpractice, it is imperative to establish a mechanism for external auditing of these Heart Teams, which should be implemented on a routine basis. This would help prevent off-label use of cutting-edge technologies, thereby safeguarding patient outcomes and upholding the highest standards of clinical excellence.

REFERENCES

1. Head SJ, Davierwala PM, Serruys PW, et al. Coronary artery bypass grafting vs. percutaneous coronary intervention for patients with three-vessel disease: final five-year follow-up of the SYNTAX trial. *Eur Heart J*. 2014;35(40):2821-2830. doi: 10.1093/eurheartj/ehu213.
2. Vahanian A, Beyersdorf F, Praz F, et al; ESC/EACTS Scientific Document Group. 2021 ESC/EACTS Guidelines for the management of valvular heart disease. *Eur Heart J*. 2022;43(7):561-632. doi: 10.1093/eurheartj/ehab395.
3. Otto CM, Nishimura RA, Bonow RO, et al. 2020 ACC/AHA guideline for the management of patients with valvular heart disease: executive summary: a report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. *Circulation*. 2021;143(5):e35-e71. doi: 10.1161/CIR.0000000000000932.
4. Lawton JS, Tamis-Holland JE, Bangalore S, et al. 2021 ACC/AHA/SCAI Guideline for Coronary Artery Revascularization: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. *Circulation*. 2022;145(3):e18-e114. doi: 10.1161/CIR.0000000000001038.
5. Pavlidis AN, Perera D, Karamasis GV, et al. Implementation and consistency of Heart Team decision-making in complex coronary revascularisation. *Int J Cardiol*. 2016;206:37-41. doi: 10.1016/j.ijcard.2016.01.041.
6. Patterson T, McConkey HZR, Ahmed-Jushuf F, et al. Long-Term outcomes following heart team revascularization recommendations in complex coronary artery disease. *J Am Heart Assoc*. 2019;8(8):e011279. doi: 10.1161/JAHA.118.011279.
7. Calderón-Abbo MC, Carrillo-Cornejo M, Lara L, Arias-Rivera SA. Practical guidelines for aortic valve surgery and the current role of the Heart Team. Case report. *Cir Card Mex*. 2025;10(3):92-94.

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