

Henry Ford Health

Henry Ford Health Scholarly Commons

Cardiology Articles

Cardiology/Cardiovascular Research

5-1-2021

More energy, more costs

Prakash Balan

Marvin H. Eng

Henry Ford Health, meng1@hfhs.org

Follow this and additional works at: https://scholarlycommons.henryford.com/cardiology_articles

Recommended Citation

Balan P, and Eng MH. More energy, more costs. *Catheter Cardiovasc Interv* 2021; 97(6):1235.

This Article is brought to you for free and open access by the Cardiology/Cardiovascular Research at Henry Ford Health Scholarly Commons. It has been accepted for inclusion in Cardiology Articles by an authorized administrator of Henry Ford Health Scholarly Commons.

EDITORIAL COMMENT

WILEY

Expert Article Analysis for:

Initial clinical experience with VersaCross transseptal system for transcatheter mitral valve repair

More energy, more costs

Prakash Balan MD¹ |Marvin H. Eng MD² ¹Department of Medicine, Division of Cardiology, Banner University Medical Center, Phoenix, Arizona²Center for Structural Heart Disease, Henry Ford Hospital, Detroit, Michigan

Correspondence

Marvin H. Eng, Henry Ford Hospital, Detroit, MI.

Email: meng1@hfhs.org

Key Points

- Transseptal access has been widely disseminated with a relatively low complication rate.
- The VersaCross Transseptal system utilizes radiofrequency energy to facilitate transseptal access enhancing ease and efficiency of procedures.
- Rising costs of structural heart interventions may impact resource allocation for medical devices.

Transseptal access was first conceived in 1957 and then declined in utilization until a recent resurgence with the dissemination of structural heart interventions. Originally used for performing hemodynamic measurement, transseptal access evolved to facilitate mitral valvuloplasty and a myriad of other structural interventions. Contemporary procedures such as left atrial appendage occlusion and transcatheter edge-to-edge repair (TEER) require precision septal puncturing to optimize procedural success. Errant puncture can not only hinder the primary procedure, but may also result in hemopericardium and tamponade, although this a relatively rare event. The Transcatheter Valve Therapy (TVT) Registry for MitraClip (Abbott Vascular, Santa Clara, CA) showed a 0.4% rate of transseptal complications while the National Cardiovascular Data Registry (NCDR) reported that Watchman implantation was associated with a 1.4% rate of pericardial effusion requiring intervention.^{1,2}

Given the relative safety of transseptal puncture, the focus has shifted toward optimizing efficiency. Sayah et al have quantified the enhanced procedural efficiency of using the VersaCross Transseptal (Baylis, Austin, TX) crossing system.³ Improved with using radiofrequency energy as well as an integrated wire and catheter system to

minimize exchanges, this device proved to be reliable for transseptal puncture for TEER using the MitraClip system. This small series described adequate safety but the focus was on procedural time. Unfortunately, this single-arm prospective study of a small cohort did not compare procedural efficiency, efficacy, or safety against simpler standard systems using the Brockenbrough needle (Medtronic, St. Paul, MN) or BRK series (Abbott Vascular). Alternative and simple means of transseptal access include the use of a coronary wire coupled with an electrosurgical cutting system to facilitate transseptal access.⁴

While the convenience of having integrated radiofrequency energy is prioritized, efficacy, safety, and cost-effectiveness are not synonymous. A more detailed comparison of the pros and cons of the various transseptal devices available would help elucidate subtle differences and cost. For instance, the Baylis NRG™ RF needle is approximately three times the cost of a standard transseptal needle.⁵ What the interventional community needs are safe and cost-effective tools, especially given the rising number of resource-intensive procedures using expensive devices. Ultimately, given the demands of healthcare economics, the safest and most cost-effective option will gain the greatest adoption.

CONFLICT OF INTEREST

Marvin H. Eng is a clinical proctor for Edwards Lifesciences and Medtronic.

ORCID

Marvin H. Eng  <https://orcid.org/0000-0002-0334-6504>

REFERENCES

1. Chhatrwalla AK, Vemulapalli S, Holmes DR, et al. Institutional experience with transcatheter mitral valve repair and clinical outcomes: insights from the TVT registry. *JACC Cardiovasc Interv.* 2019;12(14):1342-1352.
2. Freeman JV, Varosy P, Price MJ, et al. The NCDR left atrial appendage occlusion registry. *J Am Coll Cardiol.* 2020;75(13):1503-1518.
3. Sayah N, Simon F, Garceau P, et al. Initial clinical experience with VersaCross transseptal system for transcatheter mitral valve repair. *Catheter Cardiovasc Interv.* 2021;97:1230-1234.
4. Khan JM, Rogers T, Eng MH, Lederman RJ, Greenbaum AB. Guidewire electrosurgery-assisted trans-septal puncture. *Catheter Cardiovasc Interv.* 2018;91(6):1164-1170.
5. Winkle RA, Mead RH, Engel G, Kong MH, Patrawala RA. Physician-controlled costs: the choice of equipment used for atrial fibrillation ablation. *J Interv Card Electrophysiol.* 2013;36(2):157-165.

How to cite this article: Balan P, Eng MH. More energy, more costs. *Catheter Cardiovasc Interv.* 2021;97:1235. <https://doi.org/10.1002/ccd.29720>