

Patent foramen ovale closure for recurrent stroke prevention: Recent evidence towards individualized decision-making.

Akshay Goel

Mayank Singhal

Aaqib H Malik

Rahul Gupta MD

Lehigh Valley Health Network, rahul.gupta@lvhn.org

Dhrubajyoti Bandyopadhyay

Follow this and additional works at: https://scholarlyworks.lvhn.org/cardiology_division

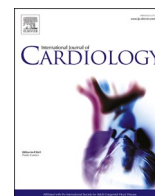


Part of the [Medicine and Health Sciences Commons](#)

Published In/Presented At

Goel A, Singhal M, Malik AH, Gupta R, Bandyopadhyay D. Patent foramen ovale closure for recurrent stroke prevention: Recent evidence towards individualized decision-making. *Int J Cardiol*. 2022 Apr 19:S0167-5273(22)00564-2. doi: 10.1016/j.ijcard.2022.04.048. Epub ahead of print. PMID: 35452760.

This Article is brought to you for free and open access by LVHN Scholarly Works. It has been accepted for inclusion in LVHN Scholarly Works by an authorized administrator. For more information, please contact LibraryServices@lvhn.org.



Letter to the Editor

Patent foramen ovale closure for recurrent stroke prevention: Recent evidence towards individualized decision-making



ARTICLE INFO

Keywords

Patent foramen ovale closure

Stroke

Cryptogenic stroke

We read with great interest the meta-analysis by Piccolo and colleagues that showed a reduction in the recurrent stroke risk after patent foramen ovale (PFO) closure compared with medical therapy in patients with embolic stroke of unknown origin [1].

While evidence from multiple trials shows that PFO closure is more effective than medical therapy in reducing recurrent strokes in patients with cryptogenic stroke and PFO, the degree of benefit for patient subgroups is unknown. Current guidelines emphasize the importance of informed shared decision-making evaluating the benefits and risks of a lifelong device in every patient [2,3].

Recently, Kent et al. published the results of their individual patient data analysis of 6 randomized trials with 3740 patients with otherwise cryptogenic stroke and PFO, randomized to PFO closure plus medical therapy or medical therapy alone [4]. PFO-Associated Stroke Causal Likelihood (PASCAL) Classification System was used to classify patients into 3 categories (unlikely, possible, or probable) based on the clinical probability that the stroke was causally related to the PFO. Over a median follow-up of 57 months, subgroup analysis revealed significant interaction effects, with reduction in recurrent strokes with PFO closure only in the patients in the possible and probable causal relatedness groups (HR 0.38 [95% CI 0.22–0.65] and HR 0.10 [95% CI 0.03–0.35], respectively), and not in the unlikely group (HR 1.14 [95% CI 0.53–2.46]).

These results suggest that application of this classification system has the potential to identify patients who would benefit from PFO closure and thus guide decision-making.

Declaration of Competing Interest

The authors report no relationships that could be construed as a

conflict of interest.

References

- [1] R. Piccolo, A. Franzone, G.C.M. Siontis, et al., Patent foramen ovale closure vs. medical therapy for recurrent stroke prevention: evolution of treatment effect during follow-up, *Int. J. Cardiol.* (255) (2018 Mar 15) 29–31.
- [2] D.O. Kleindorfer, A. Towfighi, S. Chaturvedi, et al., 2021 guideline for the prevention of stroke in patients with stroke and transient ischemic attack: a guideline from the American Heart Association/American Stroke Association, *Stroke*. 52 (7) (2021 Jul) e364–e467.
- [3] C. Pristipino, H. Sievert, F. D'Ascenzo, et al., European position paper on the management of patients with patent foramen ovale. General approach and left circulation thromboembolism, *Eur. Heart J.* 40 (38) (2019 Oct 7) 3182–3195.
- [4] D.M. Kent, J.L. Saver, S.E. Kasner, et al., Heterogeneity of treatment effects in an analysis of pooled individual patient data from randomized trials of device closure of patent foramen ovale after stroke, *JAMA*. 326 (22) (2021 Dec 14) 2277–2286.

Akshay Goel^{a,*}, Mayank Singhal^b, Aaqib H. Malik^a, Rahul Gupta^c,
Dhrubajyoti Bandyopadhyay^a

^a Department of Cardiology, Westchester Medical Center, Valhalla, NY, USA

^b Department of Medicine, Cape Fear Valley Medical Center, Fayetteville, NC, USA

^c Department of Cardiology, Lehigh Valley Health Network, Allentown, PA, USA

* Corresponding author at: Westchester Medical Center, 100 Woods Road, Valhalla, NY 10595, USA.

E-mail addresses: dr.akshaygoel@gmail.com (A. Goel), aaqib2012@aya.yale.edu (A.H. Malik).

<https://doi.org/10.1016/j.ijcard.2022.04.048>

Received 5 April 2022; Accepted 14 April 2022

Available online 19 April 2022

0167-5273/© 2022 Elsevier B.V. All rights reserved.