Title

Abstract T P173: Accuracy of Transcranial Doppler for the Diagnosis of Intracardiac Right-to-Left Shunts: A Meta-Analysis of Prospective Studies

Journal

Stroke, 45(suppl_1)

ISSN

0039-2499

Authors

Mojadidi, M Khalid
Zaman, Muhammad O
Roberts, Scott
et al.

Publication Date

2014-02-01

DOI

10.1161/str.45.suppl_1.tp173

INTERNATIONAL STROKE CONFERENCE POSTER ABSTRACTS

SESSION TITLE: DIAGNOSIS OF STROKE ETIOLOGY POSTERS II

Abstract T P173: Accuracy of Transcranial Doppler for the Diagnosis of Intracardiac Right-to-Left Shunts: A Meta-Analysis of Prospective Studies

M. Khalid Mojadidi, Muhammad O Zaman, Scott Roberts, Jared Winoker, Jorge Romero, David Goodman, Rubine Gevorgyan and Jonathan M Tobis

Originally published 7 Apr 2018
https://doi.org/10.1161/str.45.suppl_1.tp173
Stroke. 2014;45:ATP173

Abstract

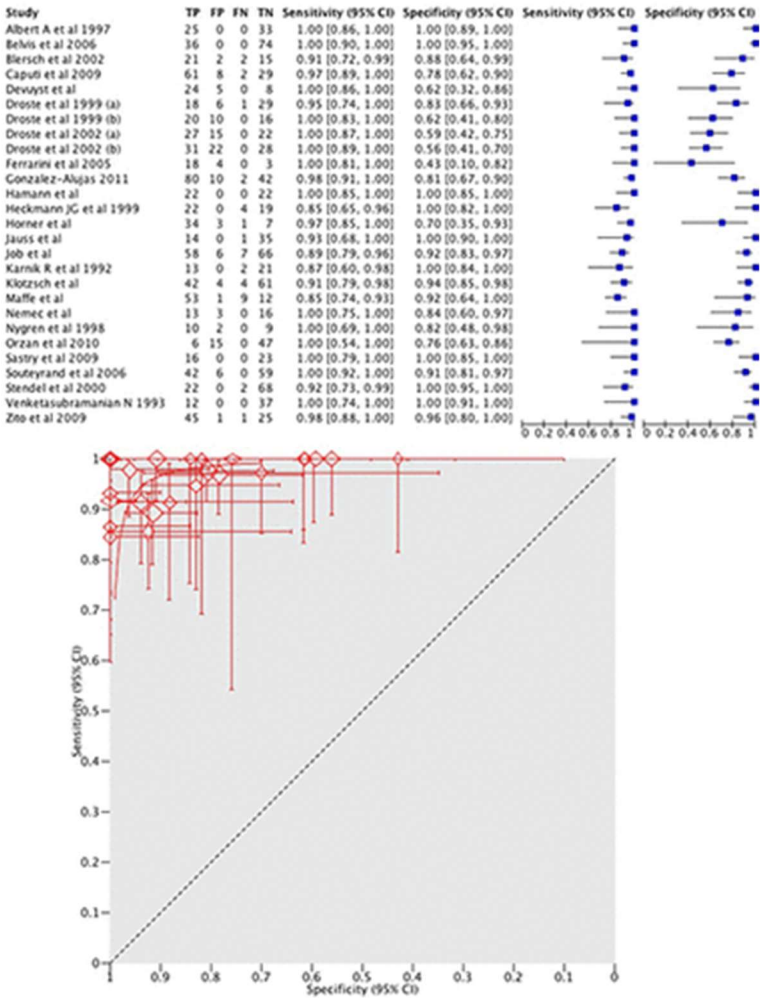
Background: Right-to-left shunting (RLS), usually through a patent foramen ovale (PFO), has been associated with cryptogenic stroke, migraine with aura, and hypoxemia. With emerging observational studies and clinical trials on the subject of PFO and its association with these clinical syndromes, there is a need for accurate diagnosis of PFO in patients being considered for transcatheter closure. While transesophageal echo (TEE) bubble study is the current standard reference for diagnosing PFO, transcranial Doppler (TCD) bubble study may be a preferable screening test for RLS due to its high sensitivity, non-invasiveness and low cost. The aim of this meta-analysis was to determine the accuracy of TCD compared to TEE as the reference.

Methods: A systematic review of Medline, Cochrane and Embase was done to look for all the prospective studies assessing for intracardiac RLS using TCD compared to TEE as the reference; both TCD and TEE were performed with a contrast agent and a maneuver to provoke RLS in all studies.

Results: A total of twenty-seven studies with 1910 patients (mean age 48 ± 5.6, 58% male) fulfilled the inclusion criteria. The weighted mean sensitivity and specificity for TCD were 96% (95% CI 90-100) and 88% (95% CI 82-94) respectively. The PPV and NPV were 87% (95% CI 81-93) and NPV: 96% (95% CI 92-100) respectively. Overall diagnostic accuracy was 91% (95% CI 87-94).

Conclusion: TCD is a reliable, non-invasive alternative diagnostic modality to TEE with an excellent sensitivity and NPV, making it a reliable screening tool for detecting RLS.

TEE is limited by patient tolerance. If the precise anatomy is required, then TEE can be obtained before scheduling a patient for transcatheter PFO closure.



- Download figure

Footnotes

Author Disclosures: **M. Mojadidi:** None. **M.O. Zaman:** None. **S. Roberts:** None. **J. Winoker:** None. **J. Romero:** None. **D. Goodman:** None. **R. Gevorgyan:** None. **J.M. Tobis:** Consultant/Advisory Board; Modest; AGA Medical, Inc, W.L. Gore, Inc, Coherex, Inc.

eLetters

eLetters should relate to an article recently published in the journal and are not a forum for providing unpublished data. Comments are reviewed for appropriate use of tone and language. Comments are not peer-reviewed. Acceptable comments are posted to the journal website only. Comments are not published in an issue and are not indexed in

PubMed. Comments should be no longer than 500 words and will only be posted online. References are limited to 10. Authors of the article cited in the comment will be invited to reply, as appropriate.

Comments and feedback on AHA/ASA Scientific Statements and Guidelines should be directed to the AHA/ASA Manuscript Oversight Committee via its Correspondence page.