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Abstract TMP39: Paucity of Evidence-Based Patent Foramen Ovale Severity Ratings in Transesophageal Echocardiogram Clinical Reports

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Abstract

Introduction: The presence of a large physiologic shunt, defined as >20 left atrial microbubbles within 3 cardiac cycles on transesophageal echocardiography (TEE), is a key, randomized controlled trial-validated, indication for patent foramen ovale (PFO) with a closure device in patients with otherwise cryptogenic ischemic stroke. The frequency with which this information is available to treating physicians from clinical TEE reports has not been well delineated.

Methods: Among consecutive ischemic stroke patients admitted to an academic medical center undergoing TEE between January-June 2023, TEE reports were reviewed to determine frequency with which formal, clinical-trial definition-adherent characterization of PFO shunt size was provided, frequency of informal PFO shunt size descriptions, and correlations with transcranial Doppler (TCD) formal shunt grades (Spencer Grades 1-5).

Results: Among the 50 patients, median age was 64 (IQR 58-74.5), and 20 (40%) were female. On TEE, shunt presence was assessed by bubble study in 38 (76%), direct Doppler alone in 6 (12%), and neither in 6 (12%). Among patients with bubble study, a right-to-left shunt (RLS) potentially due to PFO was present 15 (39%). RLS severity was quantified in 27% (4/15) of PFO patients, all with formally small (<20) shunts. For the remaining 11, reports informally characterized shunt severity with various descriptive terms, including “mild” (7 cases), “mild/trace” (1), “moderate” (2), and “large” (1). TCD bubble studies were performed in 67% (10/15) of the TEE RLS PFO patients. Shunt severity correlation between TEE and TCD was 100% (3/3) for the formally quantified TEE shunts, but poor for the 7 informally assessed TEE shunts, with 60% (3/5) of shunts deemed “mild” on TEE quantified as intermediate-large on TCD, 1/1 deemed “moderate” on TEE quantified as intermediate on TCD, and 1/1 deemed “large” on TEE quantified as miniscule on TCD.

Conclusions: Quantified, evidence-based ratings of PFO shunt severity were present in less than 3 of every 10 TEE reports, and unquantified, informal size estimates correlated poorly with TCD quantification of shunt severity. Patient management would be aided by inclusion of formal PFO shunt size quantification in all clinical stroke patient TEE reports.

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