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TCT-378 Not Every TEE Is a "Standard of Care" TEE

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MxR could become a useful tool in planning TAVR measurements due to true 3D perception by an operator.

CATEGORIES STRUCTURAL: Valvular Disease: Aortic

TCT-377

Automated Robotic TCD for RLS Detection in the Evaluation of Patients with Cryptogenic Stroke

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BACKGROUND Ischemic stroke is a heterogeneous condition and requires a detailed workup to properly identify the underlying mechanisms to better inform treatment and secondary prevention. One such mechanism, the presence of a patent foramen oval (PFO), has long been associated with an increased risk of recurrent stroke. Recent randomized controlled trials have demonstrated the benefits of percutaneous PFO closure over medical therapy alone for secondary prevention of recurrent ischemic stroke in a selected population. One critical element of patient selection through established clinical algorithms is the presence and size of the PFO. Several guideline recommendations highlight the superior sensitivity of transcranial Doppler (TCD) for the identification of right-to-left shunt (RLS) compared with TTE; however, user dependence and inaccessibility have limited TCD use within the cryptogenic stroke workup. The purpose of this study is to evaluate the role of automated TCD (aTCD [NovaGuide, NovaSignal Corp]) in cryptogenic stroke against transthoracic echocardiography (TTE) and transesophageal echocardiography (TEE) for RLS diagnosis.

METHODS Cryptogenic stroke patients admitted to our regional medical center were scanned by a non-TCD expert using a robotic, 5-degree-of-freedom aTCD as part of the cryptogenic stroke workflow for the assessment of RLS using the Spencer logarithmic scale (SLS) grade for shunt quantification. Standard of care TTE with bubble was performed, and if the aTCD was positive, TEE was performed for further risk stratification.

RESULTS A total of 70 (44% female) patients with an average age of 57.8 years were scanned by aTCD. Of these scans, 67% (n = 47) were identified by aTCD for RLS, and 47% (n = 33) had a positive shunt with SLS grade of 3 or greater.

CONCLUSION The accurate identification of PFO is a critical element in the workup of patients with cryptogenic stroke. We successfully integrated aTCD into the clinical workflow, and the identification rate of RLS using aTCD compared well against the recent prospective study (NCT04604015), which was compared with TTE bubble. The incorporation of aTCD into the cryptogenic stroke workup can provide highly sensitive detection and quantification of RLS.

CATEGORIES STRUCTURAL: Congenital and Other Structural Heart Disease

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TCT-378

Not Every TEE Is a "Standard of Care" TEE

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BACKGROUND Intraprocedural structural heart imaging is more challenging and has unique differences from standard of care (SOC) imaging. However, the variations in time and complexity of different types of SOC transesophageal echocardiographs (TEEs) versus interventional TEEs is not well studied. In this study, we aim to compare the complexity of SOC nonvalvular indication TEE with SOC valvular TEE studies and interventional TEEs performed in the guidance of transcatheter edge-to-edge repair (TEER) MitraClip (Abbott Vascular) procedures.

METHODS A retrospective case-control analysis was performed on 200 patients who underwent TEE in the Henry Ford Health System. One hundred cases of interventional TEE-guided TEER were compared with 73 nonvalvular (endocarditis and stroke evaluation) SOC TEEs and 27 valvular (preprocedural mitral, aortic, and tricuspid valve evaluations) SOC TEEs. Complexity was quantified by the total procedure duration, the total number of images, and the number of 3-dimensional (3D) clips captured. The mean, median, and SD were

compared between these groups. The Kruskal-Wallis test was used to evaluate statistical significance.

RESULTS The mean duration of TEE procedures, the number of images, and the number of 3D clips were all significantly higher in the interventional imaging TEER group compared with the noninterventional groups ($P < 0.0001$) (Table 1). The duration and number of images were also significantly higher among valvular compared with nonvalvular SOC TEE groups ($P < 0.0002$) as well as number of 3D clips ($P < 0.0012$).

Covariate	Statistics	SOC Nonvalvular (n = 73)	SOC Valvular (n = 27)	Interventional TEE (n = 100)	P Value
TEE duration	Mean	20.84	31.44	120.38	<0.0001
	SD	9.49	11.05	43.16	
	Median	20	31	116	
Number of images	Mean	68.78	89.33	200.67	<0.0001
	SD	27.63	22.68	83.91	
	Median	67	89	193.5	
Number of 3D clips	Mean	4.05	7.56	33.37	<0.0001
	SD	3.53	5.15	15.03	
	Median	4	6	32	

CONCLUSION Interventional TEE was more complicated and time-consuming compared with SOC TEE performed for both nonvalvular and valvular indications. The latter was also more complex than SOC nonvalvular TEE. This is the first study of its kind demonstrating objective differences between interventional and 2 SOC TEE groups. These results emphasize the need of dedicated training for intraprocedural imaging as well as restructuring of reimbursement codes.

CATEGORIES STRUCTURAL: Valvular Disease: Mitral

LAA OCCLUSION I

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TCT-379

Single Antiplatelet Therapy Following Left Atrial Appendage Occlusion

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BACKGROUND The majority of patients undergoing left atrial appendage occlusion (LAAO) are at increased risk of bleeding. The optimal postprocedural antithrombotic regimen to prevent both ischemic and hemorrhagic complications remains undetermined. We aimed to evaluate the long-term efficacy and safety of single antiplatelet therapy (SAPT) after LAAO.

METHODS All Danish LAAO patients treated between March 2010 and December 2021 were identified through the nationwide Danish health registries. Discharge medication and clinical outcomes were obtained from the Danish National Prescription Registry and the Danish National Patient Registry, containing prospectively collected patient-level data on all reimbursed prescriptions and all hospitalizations across Denmark. The outcomes of interest were ischemic stroke, major bleeding, and all-cause mortality.

RESULTS A total of 1,462 patients underwent LAAO during the study period with 799 (55%) discharged on SAPT, 469 (32%) on dual antiplatelet therapy (DAPT), and 94 (6%) on oral anticoagulation/SAPT combination therapy. The median follow-up was 2.6 years (IQR: 1.2-4.5). Comparing patients discharged on SAPT with the DAPT population, the mean CHA_2DS_2-VASc was 3.0 + 1.4A versus 3.2 + 1.5 ($P = 0.058$), and the HAS-BLED scores were 1.8 + 0.9 versus 1.6 + 0.8 ($P < 0.001$). Prior intracranial hemorrhage was more frequent in the SAPT population (175 [21.9%] vs 64 [13.6%]; $P < 0.001$). No difference in the crude annualized stroke rate (SAPT: 2.1% [95% CI: 1.5-2.7] vs DAPT: 2.1% [95% CI: 1.8-2.7]), intracranial hemorrhage (SAPT: 0.7% [95% CI: 0.4-1.1] vs DAPT: 0.6% [95% CI: 0.4-0.9]), extracranial major bleeding (SAPT: 2.6% [95% CI: 2.0-3.5] vs DAPT: 2.5% [95% CI: 2.1-3.1]), or all-