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Structural heart disease, minimally invasive procedures and the relationship to thromboembolic cerebral disease

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Statement of the Problem: The graying of populations across the globe is associated with increasing rates of structural heart disease and cardioembolic stroke. Aortic stenosis is the most prevalent cardiac valvular disease in the Western world. Thirty percent of aortic stenosis patients are not surgical candidates. Stroke is the 4th leading cause of death in the United States and 2nd leading cause of death in the EU and Europe. Twenty percent of patients have cardiogenic sources of emboli with 50% of those related to non-valvular atrial fibrillation with greater than 90% of thrombi originating in the left atrial appendage. Greater than 55% of patients with first time stroke and known non-valvular atrial fibrillation were on anticoagulation therapy, 68% found to be subclinical. Percutaneous procedures have been developed for each of these conditions with multiple device options and variable routes of deployment. However, the major complication associated with these procedures is embolic stroke.

Data to be Presented: Review of incidence of clinical vs non-clinical cerebral events associated with left atrial appendage closure and transcatheter aortic valve replacement procedures, structural risk factors, and imaging for procedure planning will be presented. Current data of cerebral protective devices will be reviewed.

Conclusion & Significance: Percutaneous procedures for treatment of atrial fibrillation and aortic stenosis are non-inferior to medical therapy and surgical therapy, respectively. Cardioembolic complications remain the major complication associated with these procedures. Embolic protection devices are promising for mitigation of embolic cerebral events in these two patient populations.

Biography

Evelyn Garcia completed her M.D. at the University of New Mexico School of Medicine, Diagnostic Radiology residency at the University of New Mexico Medical Center, and Body Imaging fellowship at the University of Utah Medical Center. She is board certified in Diagnostic Radiology and Cardiovascular Computed Tomography. She is the Chairman and Medical Director of Radiology at Virginia Tech Carilion School of Medicine and of Carilion Clinic, a six hospital system with 800 bed flagship Level I Trauma and Stroke certified center. She is imager for the structural heart valve team of Carilion Clinic.

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