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Rare incidental and asymptomatic fistula between the sinus of valsalva and the right ventricle

Abstract:

Background: Sinus of Valsalva fistulas are rare, with incidence ranging from 0.14% to 0.96%. The most common site of fistula is from the right coronary sinus into the right ventricle. (1) It usually occurs due to rupture of sinus of Valsalva aneurysm. These fistulas can be asymptomatic, but may lead to chest pain, dyspnea, and even heart failure. Thus, diagnosing, monitoring, and treatment is crucial in preventing adverse health outcomes. This case discusses one such incidentally found congenital abnormality, and documents imaging studies that led to the diagnosis.

Case Presentation: A 56-year old male with a past medical history of hypertension presented to his PCP with symptoms of sinusitis. On routine physical exam, he was noted to have a grade 4/6 crescendo systolic murmur best heard at the apex. The patient had no complaints of fatigue, chest pain, shortness of breath, or peripheral edema. Patient was referred to cardiology who obtained a transthoracic echocardiogram (TTE). TTE revealed a continuous left to right shunt in both systole and diastole, consistent with right coronary sinus of Valsalva to right ventricle fistula. The shunt had a peak velocity of 5.9 m/sec, and a QP/QS ratio of 1.3, indicating significant abnormal blood flow. Additionally left atrium was noted to be mildly dilated.

Conclusion: Valsalva aneurysms have been detected in a handful of patients, often times presenting as exertional dyspnea, and leading to a right to left shunt. Transcatheter closure has been implemented in a number of these cases with beneficial outcomes. This case highlights another incidence, and more importantly, underscores how a thorough routine physical exam is vital even in asymptomatic patients, since this patient's workup was only indicated due to the discovery of a heart murmur in a patient with an unrelated chief complaint. The study displays the complications that can occur with a sinus of valsalva aneurysm, such as formation of a fistula, requiring prompt medical attention.

Biography

Diane Lee is a third-year medical student at Drexel College of Medicine in Philadelphia, Pennsylvania. As she embarks on her clinical rotations, she continues to discover her areas of passion within medicine. Lee is committed to contributing to the field through both research and clinical practice, with a particular focus on enhancing patient outcomes through preventative measures and evidence-based interventions. Although there are a variety of specialties that peaks her interest, she has enjoyed her time in child and adolescent psychiatry and vascular surgery. She is dedicated to exploring innovative approaches to patient care and treatment. Lee has actively participated in various research projects, including a study on risk factors associated with postpartum depression. She is enthusiastic about furthering her expertise and making a meaningful impact in the health-care field, aiming to bridge clinical practice with research advancements.