Atrial Fibrillation in an Elderly Male with Cor Triatriatum Sinister

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Background

- Cor triatriatum is a rare congenital heart disease, accounting for approximately 0.1-0.4% of congenital heart conditions. In cor triatriatum sinister (CTS), the pulmonary veins anomalously enter a posterior chamber connected to the left atrium that is separated from the true left atrium by a fibromuscular septum proximal to the left atrial appendage. CTS can present with exertional dyspnoea, palpitations, and orthopnoea, simulating congestive heart failure in adults. These clinical features may be attributed to the development of atrial fibrillation, pulmonary hypertension, or mitral valve abnormalities. We describe the case of a 68-year-old man who presented with the symptoms of congestive heart failure and was hospitalized for the transoesophageal echocardiography (TEE) – guided cardioversion of new-onset atrial fibrillation, during which cor triatriatum was incidentally detected.

Case Presentation

We report the case of a 68-year-old Caucasian male referred to the hospital by his primary care physician with dyspnea on minimal exertion, fatigue, dizziness, palpitations, and new-onset atrial fibrillation. The patient was admitted to the hospital for further evaluation and management of his new-onset atrial fibrillation. He was started on oral diltiazem and digoxin on an as-needed basis for control of heart rate and therapeutic anticoagulation with subcutaneous enoxaparin sodium. Transesophageal echocardiography (TEE)-guided cardioversion was performed. TEE showed a flap in the left atrium that was suggestive of cor triatriatum sinister. Cardiac magnetic resonance imaging (MRI) was performed to delineate the anatomy of the left atrial flap. We planned to observe the patient with regular follow-up and further imaging with TEE and cardiac MRI. We did not suggest surgical intervention because of the incidental diagnosis, lack of evidence implicating CTS for the patient's symptoms, and advanced age at presentation.

Discussion

- We report a rare case of CTS associated with atrial fibrillation in an elderly male patient. CTS is rarely diagnosed in the elderly age group, with only a handful of case reports in the literature. There are a few case reports on the presence of atrial fibrillation in cor triatriatum associated with valvular or other congenital heart defects. Our case poses unique diagnostic and therapeutic challenges, given the condition's rarity and lack of formal guidelines. The diagnosis in this age group is often incidental, like in our case. The patient usually presents with the signs and symptoms of congestive heart failure, such as exertional dyspnoea, palpitations, hemoptysis, and orthopnoea, which might be caused due to obstruction by the fibromuscular intra-atrial septum. Lifelong anticoagulation was indicated in our case as CTS has been associated with cardioembolic stroke, with and without concomitant atrial fibrillation. The present case highlights the importance of considering adult congenital heart diseases in the differential diagnoses for new-onset atrial fibrillation and congestive heart failure in elderly patients.

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