



Rare case of Atrial Septal Aneurysm presenting as Atrial Fibrillation and Cardiogenic Shock

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Abstract

Normally, we see Atrial Fibrillation as a result of hypertension, coronary artery disease, sick sinus syndrome, viral infection, and few do not have any heart defects or damage. But very rarely Atrial Septal Aneurysm is the cause of Atrial Fibrillation presenting as a Cardiogenic Shock. Here, we report a 45-year-old female who was non-diabetic, non-hypertensive presented with shortness of breath along with hypotension. In search for the cause of Cardiogenic shock in view of Atrial Fibrillation in her ECG revealed her having Atrial Septal Aneurysm as a precipitating cause.

Keywords: Atrial septal aneurysm, atrial fibrillation, cardiogenic shock

CASE REPORT

A 45-year-old female presented with shortness of breath, abdominal distension, and vomiting. Patient was non-diabetic, non-hypertensive, non-alcoholic and non-smoker. On examination, patient was in distress, looked pale and was in shock with systolic blood pressure of 60/40 mm of Hg, pulse rate of 130/min with irregularly irregular pulse. Cardiovascular examination revealed apex beat in the 5th intercostal space, S1 and S2 cannot be commented on because of the irregular rhythm with no added sounds or murmur. Respiratory examination showed bilateral fine crepitations at the base of lung. Abdominal and neurological examination was unremarkable.

Laboratory work showed abnormal liver and renal functions, with elevated bilirubin (3.5mg/dl), SGOT 490 U/L, SGPT 532 U/L, BUN 70mg/dl, and Serum creatinine 3.8 mg/dl.

ECG at presentation showed irregularly irregular rhythm. Further, TTE is planned and it revealed EF of 61% with moderate MS, mild MR and atrial septal aneurysm.

In view of the above, diagnosis of atrial fibrillation with cardiogenic shock was made. the patient was treated with Atorvastatin and warfarin.

DISCUSSION

Atrial septal aneurysm (ASA) is a congenital deformity of the interatrial septum with a

prevalence of 1-2% in the adult population.^[1] It is a rare cardiac abnormality that is usually detected during routine echocardiography or evaluation of ischemic stroke. It may be isolated or in the presence of other defects such as mitral valve prolapse (MVP), patent foramen ovale (PFO), and atrial septal defect (ASD).^[2,3,4] Additionally, valvular regurgitations, and supraventricular arrhythmias are the most often accompanying pathologies associated with ASA.^[5] Atrial septal aneurysm was diagnosed if the atrial septum or part of it exhibited aneurysmal dilation protruding at least 1.5 cm beyond the plane of the atrial septum or if it exhibited phasic excursion during the cardiorespiratory cycle exceeding 1.5 cm and if the base of the aneurysmal protrusion was at least 1.5 cm in diameter.^[6] It is unclear what causes the

arrhythmias, the pathogenesis of it may be due to the redundancy of the atrial septum or associated structural defects or the autonomic dysfunction.

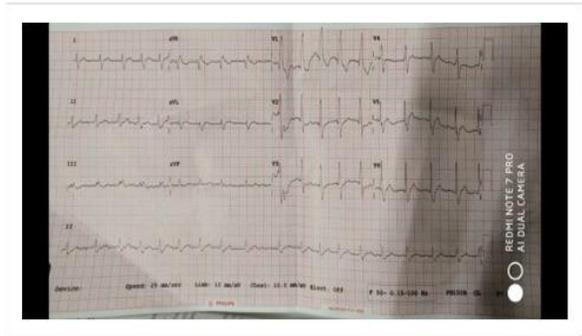
CONCLUSION

The prevalence of atrial arrhythmias is around 25% in patients with ASA, with Atrial Fibrillation being the most common. Echocardiography is the main modality for the diagnosis of ASA. Presence of ASA is an indication for long term anti-platelet or anti-coagulant therapy or even surgery. Clinicians should be aware of this rare abnormality which is implicated in multiple other conditions and in our case presented with Atrial fibrillation with cardiogenic shock.

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ECG showing Atrial Fibrillation.



TTE showing Atrial septum aneurysm



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