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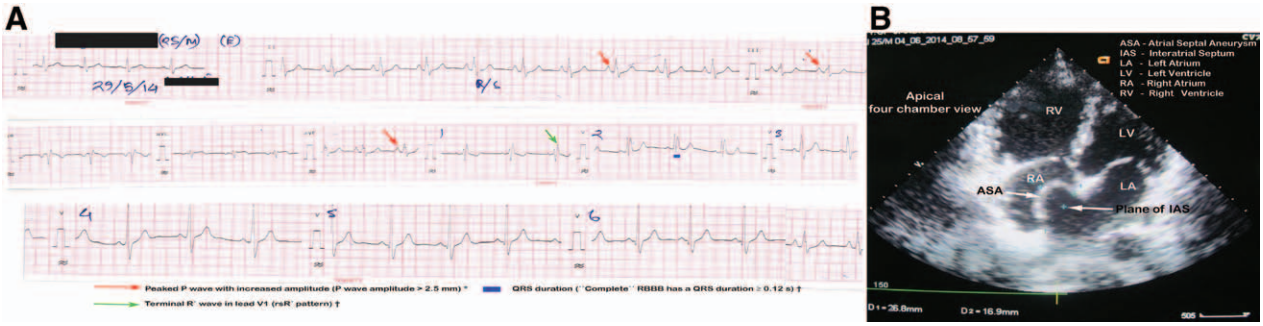
Images in Anesthesiology: Atrial Septal Aneurysm Presenting with Only Electrocardiogram Signs of Right Atrial Enlargement and Complete Right Bundle Branch Block

Babita Lahkar, M.D., Priyam Saikia, M.D., Pranab J. Bhattacharyya, D.M.



A 25-YR-OLD male, with a primarily repaired splenic flexure of colon, underwent transverse loop colostomy closure. Although preanesthetic cardiovascular history and examination were benign, an electrocardiogram requested by the surgical service (as "routine" evaluation) was remarkable for peaked P-waves in leads II, III, and aVF (augmented vector foot) with an increased amplitude indicating the presence of right atrial enlargement* and complete right bundle branch block (fig. A).[1]† Transthoracic echocardiography revealed an isolated type 3RL atrial septal aneurysm (ASA) with no other cardiac pathology noted (fig. B).

Interatrial septal pathologies, for example atrial septal defect, patent foramen ovale, and ASA are not uncommon and their adverse consequences are well documented.[1–3] Patients with interatrial septal pathologies commonly present with conduction abnormalities on electrocardiogram, with right bundle branch block being the commonest.[2] Right bundle branch block is believed to be mainly associated with atrial septal defect, right ventricular volume overload, delay of impulse conduction in the right bundle branch, chronic obstructive pulmonary disease, and myocardial ischemia.[2] ASA has recently been recognized as a cause of right bundle branch block and further evaluation for interatrial septal pathologies in patients with right bundle branch block is recommended.[2] Patients with ASA may be asymptomatic and present with no pathognomonic clinical or electrocardiogram findings.[1] Scholz EP *et al.* [1] described a case of ASA presenting with right atrial enlargement in electrocardiogram and recommended echocardiography even in asymptomatic patients with electrocardiogram features of right atrial enlargement. Right atrial enlargement in electrocardiogram may also be found in tricuspid atresia and atrial septal defect.[1] Patients with ASA may have associated cardiac abnormalities (mitral valve prolapse, patent foramen ovale, atrial septal defect); increased risk of arrhythmia; and embolic stroke.[1,2] They may also be candidates for anticoagulation therapy.[3] These common comorbidities in patients with ASA may influence the anesthetic management. Additionally, early postoperative stroke has also been reported in a patient with ASA.[3]

Competing Interests

The authors declare no competing interests.

Correspondence

Address correspondence to Dr. Saikia: saikia.priyam80@gmail.com

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From the Department of Anaesthesiology and Critical Care, Gauhati Medical College and Hospital, Guwahati, Assam, India (P.S.).

* Right Atrial Enlargement. Available at: http://ecg.utah.edu/lesson/7. Accessed July 24, 2014.

† Right Bundle Branch Block. Available at: http://ecg.utah.edu/lesson/6. Accessed July 24, 2014.

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