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CASE REPORT

A RARE CASE OF CONGENITAL GIANT LEFT ATRIAL APPENDAGE DIVERTICULUM IN AN ADOLESCENT

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ABSTRACT: Congenital giant left atrial appendage diverticulum is a rare entity. If it is not diagnosed and treated by surgical excision it may lead to life threatening complications. We report a congenital giant left atrial appendage diverticulum in an 18 year old adolescent presenting as an atrial arrhythmia. Because of arrhythmia, hidden congenital anomaly was discovered and his life is saved from potential morbidity and mortality.

KEYWORDS: Congenital anomaly, diverticulum, left atrial appendage, atrial arrhythmia.

INTRODUCTION: Congenital left atrial appendage diverticulum is a rare entity. It usually present as a silent diverticulum with systemic embolism most commonly as stroke or atrial arrhythmias in adult life. Isolated palpitation in an adolescent boy is usually anxiety related. But it requires careful evaluation before reassurance. It could be an arrhythmia of underlying occult congenital heart disease which may present as a catastrophic life threatening event in near future if not treated.

CASE REPORT: An eighteen year old adolescent boy presented with few episodes of palpitations. On examination there were few missed beats, silent precordium and no audible murmurs. His ECG showed frequent premature atrial contractions [PAC] and left atrial enlargement. His chest x-ray [Figur-1] revealed a bulge in left heart border at the level of left atrial appendage [LAA].

Transthoracic echocardiogram at parasternal short axis level [Figure 2A] discovered a 41×30mm chamber communicating with the left atrium. Transesophageal echocardiogram [Figure 2B] was done which showed the potential formation of clot in the form of auto contrast in the chamber. Iodixinol contrast cardiac CT [Figure 2C] revealed clear anatomy and relationship of the additional chamber.

It showed the additional chamber which was almost equal to that of left atrium and narrow communicating mouth which suggest the diagnosis of diverticulum. He underwent surgical excision of LAA diverticulum [Figure 3A & 3B], because of risk of atrial arrhythmia like PAC which may degenerate into atrial tachycardia or atrial fibrillation, LAA clot formation and systemic embolism. Post operatively PAC disappeared and he was discharged in sinus rhythm. On three months review he was in sinus rhythm without medications.

DISCUSSION: Cor triatriatum sinistrum, true or pseudo aneurysms of LAA are differential diagnosis. True aneurysm of a cardiac chamber is a weak portion of a wall, which bulges out, has got wide mouth and all the layers of the original chamber are present. Pseudo aneurysm is a partially remodeled hematoma in to a cavity with narrow mouth and aneurysm wall is formed by hematoma. Cor triatriatum sinistrum is a congenital anomaly where typically a proximal chamber that receives the pulmonic veins. In this CT image pulmonic veins are draining into the left atrium and diverticulum is communicating with the left atrium separately.

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Left atrium communicating with left ventricle through mitral valve.

Congenital giant diverticulum of left atrial appendage is a rare anomaly to present early in an adolescent age as PAC.[1] The PAC presented as benign palpitation, discovered the giant diverticulum and saved a young adolescent boy form future dreaded complications like systemic embolism as Cerebro vascular accident.[2]

CONCLUSION: Congenital LAA diverticulum presenting in an adolescent as an arrhythmia is a rare entity. It should be removed by surgical excision because of risk of atrial arrhythmia like PAC which may degenerate into atrial tachycardia or atrial fibrillation, LAA clot formation and embolic stroke.

Figure 1: Chest x-ray – bulge in left heart border at the level of left atrial appendage.

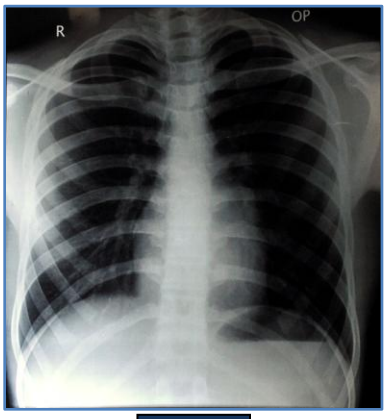

Fig. 1

Figure 2: 2A-Trans thoracic echocardiogram at short axis level – arrow from left atrium into diverticulum. 2B- Trans esophageal echocardiogram – arrow from left atrium into diverticulum. 2C- Contrast cardiac CT- LA: Left atrium, LV: Left ventricle, D: Diverticulum, black arrows in pulmonic veins.

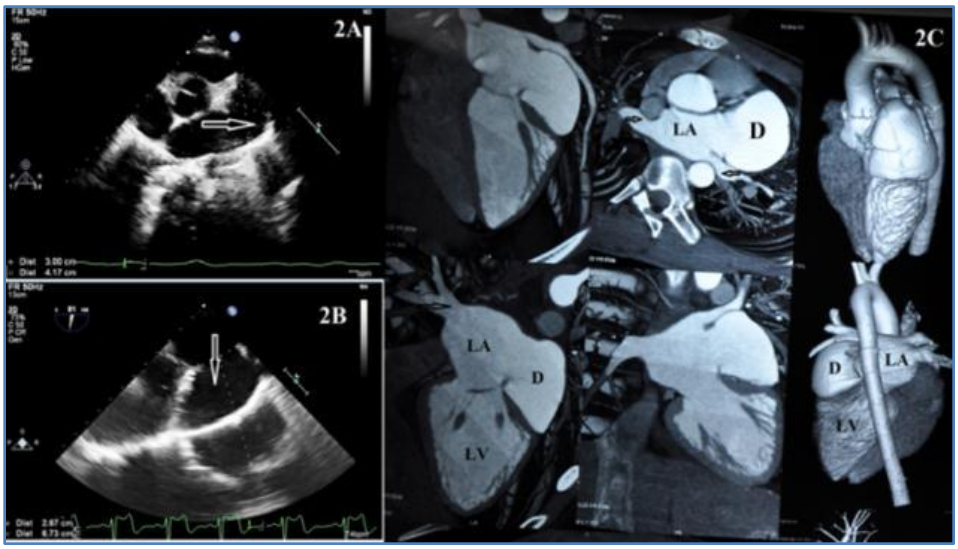

Fig. 2A, 2B and 2C

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Figure 3: 3A- Intra operative image (white arrow), 3B- Post surgery.

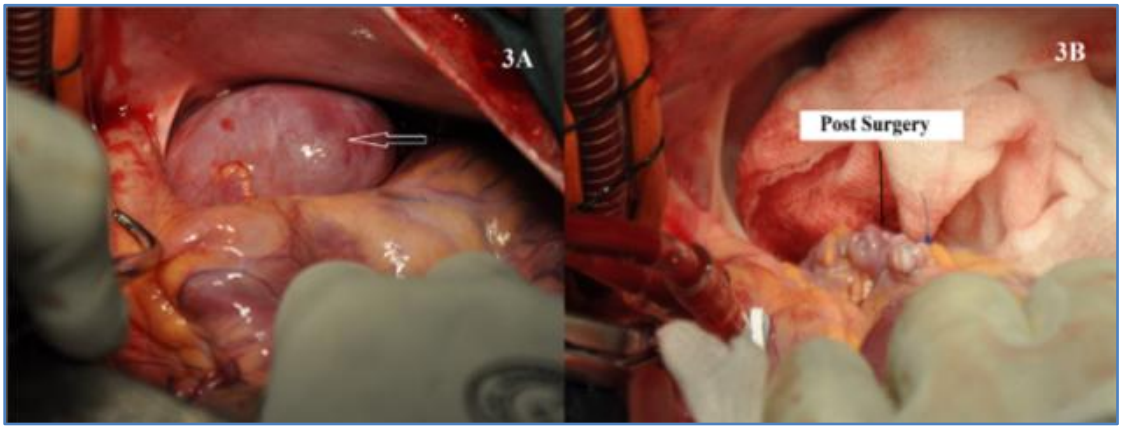

Fig. 3A, 3B

REFERENCES:

1. Godwin TF, Anger P, Key JA, Wigle ED: Intrapericardial aneurismal dilatation of the left atrial appendage. Circulation 37:397, 1968.
2. Pome G, Pelenghi S, Grassi M, Vignati G, Pellegrini A. Congenital intra pericardial aneurysm of the left atrial appendage. Ann Thorac Surg. 2000; 69: 1569-71.

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