

SVC. In other series, the hemiazygos drained into the left SVC, which mostly drains into the coronary sinus as in our case (10). Although the left sided IVC has been described previously, we have not found any report having three different anomalies all together. We suspected the drainage of subdiaphragmatic venous return to persistent SVC and absence the hepatic segment of IVC by agitated saline contrast echocardiography, and confirmed the diagnosis by multidetector CT.

Conclusion

Our case is unique for the presence of all three congenital systemic and pulmonary venous anomalies, come together. Determining of venous anomalies is of particular importance before implantation of cardiac pacemakers and implantable cardioverter defibrillators.

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Incidentally diagnosed congenital left ventricular aneurysm: report of two cases

Tesadüfen tanı konulmuş konjenital sol ventriküler anevrizma: İki olgu sunusu

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Introduction

Congenital ventricular diverticulum and aneurysm are two distinct rare entities with different morphologic and histological characteristics and outcomes. Congenital ventricular diverticulum and aneurysm have a reported prevalence ranging from 0.4% to 0.8% (1, 2). Although congenital diverticulum is usually associated with other anomalies such as Cantrell pentalogy, a congenital aneurysm is frequently detected as standalone finding (3). The differential diagnosis of these two conditions is cumbersome for the clinician. Nevertheless, a wide neck, the absence of normal ventricular layers and paradoxical contraction point to the presence of an aneurysm (4).

We report here incidentally diagnosed two congenital left ventricular aneurysm cases in which different imaging modalities were used.

Case 1

A 24-year-old male was admitted to our clinic with a complaint of atypical chest pain. His physical examination was unremarkable except apical mild late-systolic murmur. Electrocardiography and routine blood

chemistry were also within normal limits. Transthoracic echocardiographic examination revealed a mild mitral regurgitation and an outpouching located at posterior wall on parasternal long axis view (Video 1. See corresponding video/movie images at www.anakarder.com). This akinetic structure was also observed at the inferior wall (Video 2. See corresponding video/movie images at www.anakarder.com).

We thought that the patient had coronary artery disease and hence coronary angiography was performed. However, it revealed a normal coronary artery anatomy and a non-contractile structure suggesting an aneurysm approaching 1.5 cm diameter (Fig. 1). We performed a cardiac scintigraphy for better delineation of the problem, which confirmed an inferiorly-located outpouching without any evidence of ischemia (Fig. 2). Based on these findings we decided that the patient has a congenital left ventricular aneurysm located at basal ventricular region and should be followed with regular sixth month intervals.

Case 2

A 21-year-old male patient was studied for exertional dyspnea. His physical examination was unremarkable except leftward displacement of

the apical pulse. His electrocardiography and routine blood chemistry were within normal limits. The chest X ray showed an enlarged cardiac silhouette. His transthoracic echocardiographic examination revealed slightly enlarged left ventricular cavity with apically localized wide akinetic area (Video 3. See corresponding video/movie images at www.anakarder.com).

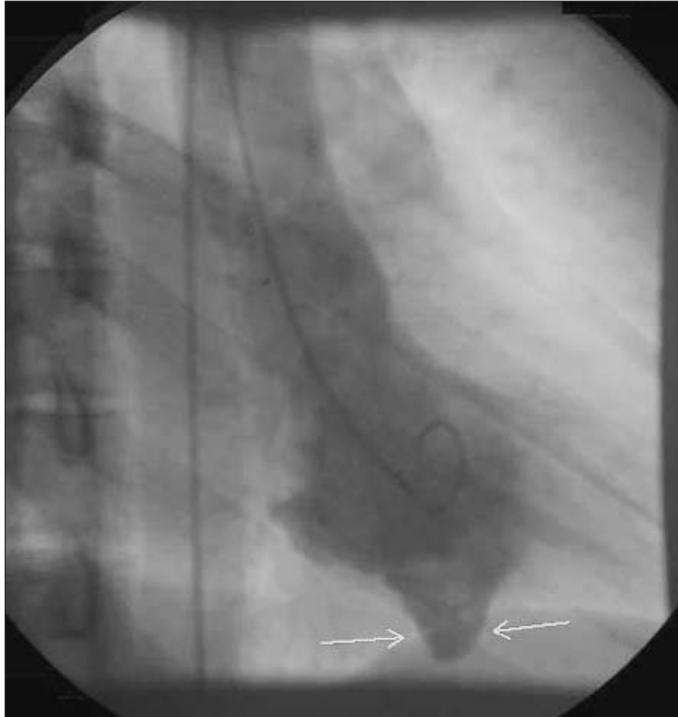


Figure 1. Left ventricular aneurysm in left ventricular catheterization in systole (white arrow)

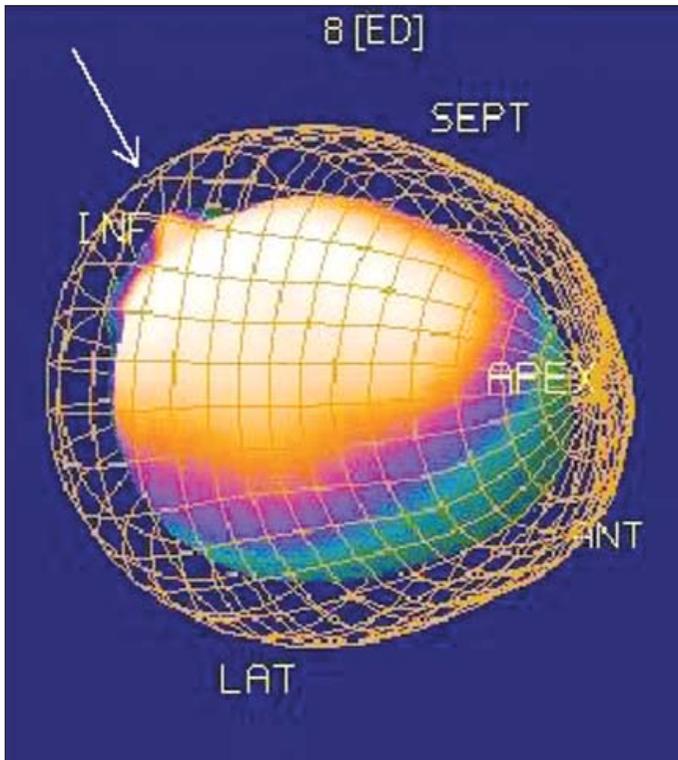


Figure 2. Gated SPECT image of the left ventricular aneurysm (white arrow)

Left ventricular ejection fraction calculated by modified Simpson rule was within normal limits (53%). Coronary angiography was normal except left ventricular apical akinetic area. Multidetector computed tomography confirmed the presence of apically localized thin-walled aneurysm (Fig. 3). We accepted it as having a congenital anomaly. We advised the patient surgical correction of the problem for preventing aneurysm-related future complications but he refused surgical option. We prescribed warfarin with a targeted INR 2-3.

Discussion

Marijon et al. (5) recently reported that congenital left ventricular diverticulum and aneurysm are two distinct entities with worse outcome in the latter. Therefore, the correct diagnosis may influence the treatment options. However, this task is not so easily performed event in current era. Among the parameters much frequently used for differential diagnosis neck size (wide or narrow) and synchronous contractility (4) seem to have practical importance because histological confirmation of all ventricular layers is not always possible in every case.

In our cases, we confronted with incidentally diagnosed structures necessitating a differential diagnostic work-up. In the first case posterobasally located akinetic area showed relatively wide neck and paradoxical movement with ventricular systole. Aneurysmatic area in the second case, albeit larger, had also wide neck but its contractility was interpreted as akinetic. The absence of other cardiac or thoracoabdominal midline deformities, in our opinion, supported the aneurysm diagnosis (5).

Congenital left ventricular aneurysms are frequently encountered in the apex and free wall (3). However, basal location is also possible (6) as in our first case. Arrhythmia, heart failure, thromboembolism and rupture may cause significant morbidity and sometimes, mortality in these patients (3). In asymptomatic patients, the therapy specifically addressing thromboembolic complications is recommended (3). Therefore, we decided to follow our first case because he had none of the risk factors and his aneurysm was relatively small. We interpreted the second case's symptoms as related to underlying pathology so surgical therapy was recommended.

Conclusion

Advanced imaging modalities including two or three dimensional echocardiography, computed tomography and magnetic resonance imaging may increase accidentally diagnosed left ventricular outpouchings. Moreover, these diagnostic techniques may also be used for follow-up of the patients and may provide valuable information about the natural history of congenital aneurysms.

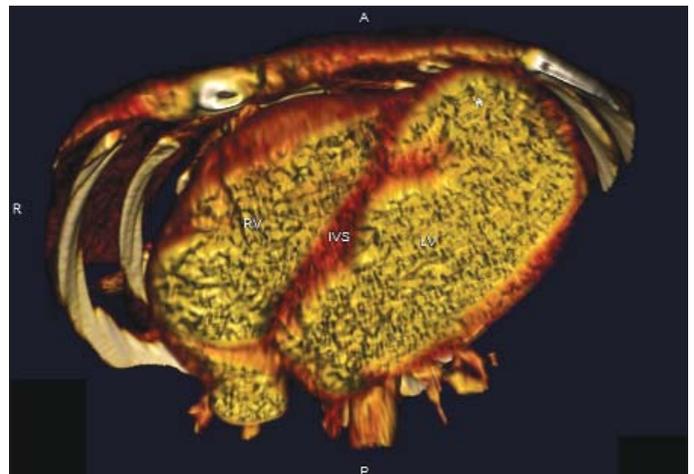


Figure 3. Computed tomography image of left ventricular aneurysm

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Diagnostic techniques in a case of patent ductus arteriosus: Is the computerized tomography angiography gold-standard method for the diagnosis of patent ductus arteriosus?

*Bir patent duktus arteriyozus vakasında tanısal tetkikler: Bilgisayarlı tomografi anjiyografisi
patent duktus arteriyozus tanısında altın standart yöntem midir?*

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Introduction

The patent ductus arteriosus (PDA) is the patency of ductus arteriosus connecting the descending aorta just distal to the left subclavian artery to the pulmonary trunk after fetal life. In the normal full-term newborn, the ductus arteriosus functionally closes shortly after birth due to increase in partial pressure of oxygen and decreased synthesis of prostaglandins (1). Anatomical closure completes after few weeks from birth, by intimal proliferation and fibrosis (2). Occasionally, ductus fails to close and can be seen at older ages uncommonly (3).

Case report

A 42-year-old woman applied to general health provider because of nonspecific upper respiratory tract infection. On routine physical examination, low-grade continuous murmur, peaking in late systole was heard incidentally in the second left intercostal space. Then the patient was referred to our clinic for further examination. Physical findings other than the low-grade murmur were unremarkable. Electrocardiogram, chest X-ray and laboratory tests were normal. Transthoracic echocardiography demonstrated an abnormal turbulent flow from the descending aorta to the pulmonary trunk in the suprasternal view. The left atrial and left ventricular dimensions and pulmonary arterial pressure were all normal. In order to determine the accurate anatomical localization, computerized tomography angiography (CTA)

was performed. It was reported firstly that an abnormal connection was present between the ascending aorta and the pulmonary artery in the axial 2-dimensional view (Fig. 1). Because of this type of connection is seen uncommonly at older ages and the patient was asymptomatic, selective aortic angiography was performed and the small PDA was seen between the descending aorta just distal to the left subclavian artery origin and the left pulmonary artery on lateral projection with 30 degrees cranial angulation (Fig. 2). The coronary angiogram was normal. After that, the patient was consulted by radiology department for reexamination of previous images and then, 3-dimensional reconstructed views showed the exact location of the communication between the descending aorta after the origin of subclavian artery and the left pulmonary artery (Fig. 3).

Discussion

The patent ductus arteriosus usually closes after birth and if it remains open, this may cause heart failure and pulmonary hypertension resulting from a large left-to-right shunt and rarely ductus arteriosus endarteritis (4, 5). In its simple isolated form, the patient with PDA is often asymptomatic. The age of patient at diagnosis varies from infancy to old age. The diagnosis can be made clinically and confirmed by echocardiography, CTA, magnetic resonance imaging or selective catheterization (6).

Transthoracic echocardiography is the initial diagnostic technique for the evaluation of patients with suspected congenital cardiac diseases. However, use of this modality is not sufficient due to several