Annals of Medical Research
DOI: 10.5455/annalsmedres.2019.01.020 2019;26(7):1430-1

Letter to the Editor

Pericardial cyst: A very rare anomaly in children

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Dear Editor,

Pericardial cysts are rare congenital anomalies of the mediastinum reported in one patient in 100,000. Among all mediastinal lesions, these benign lesions are seen in 6-7% of the cases. Pericardial cysts generally occur in adults and rarely occur in children (1,2). Usually located in the right cardiophrenic angle, pericardial cysts are thought to be formed as a result of fusion of embryologically primitive pericardial lacunars. Pericardial cysts generally have no internal septation. While these cysts are mostly asymptomatic, they can also appear in chest pain, dyspnea, palpitation, cough as atypical symptoms (3,4). Two-dimensional echocardiography is valuable in diagnosis. Apart from that, in cardiac magnetic resonance (MR) imaging, these cysts are monitored in T1 weighted as hypointense, T2 weighted as hyperintense (5). In this report, we aimed to present a very rare case of a pericardial cyst diagnosed in infancy period and to discuss the management of this rare pathology.

A 33-day-old female infant was referred to our pediatric cardiology clinic by another pediatric-cardiolog clinician since the cardiac mass was suspected with transthoracic echocardiography. She was the second living child of a 30-year-old mother and 33-year-old father from a second pregnancy. According to her medical history, she was born at full term with an uneventful perinatal course. She had no family history of congenital heart disease. Her physical examination was normal and no pathologic cardiac murmur was detected. Her telecardiogram and electrocardiogram were normal. Laboratory tests including a complete blood count and serum biochemistry were unremarkable.

Two-dimensional and color code transthoracic echocardiography (Vivid pro-7, GE, Vingmed Ultrasound, Horten, Norway) showed a non-hemodynamical cyst that was thought to be coupling in the right ventricular pericardium, located in the cardiac apex and measuring about 17x14 mm (Figure 1A, Figure 1B). In the constructed cardiac magnetic resonance imaging, T2-weighted images with no significant correlation to the pericardium were found to have a lesion compatible with the pericardial cyst at a significant hyperdense signal intensity (Figure 2). The echocardiographic findings of the patient on the 2nd, 5th and 8th months showed that the cyst was gradually smaller. The echocardiography of the patient at 8th month showed cyst size 5x7 mm and the patient shows no clinical findings and is being followed by our clinic (Figure 2).

Pericardial cysts are benign intrathoracic congenital lesions and they comprise 6-7% of all mediastinal lesions. The pericardium space forms due to fusion of several mesenchymal lacunas. As a result of any distortion in fusion of these primitive lacunas, pericardial cysts may occur. Pericardial cysts are generally located in the right cardiophrenic sinus (50-70%). On the other hand, they can be rarely located in left cardiophrenic sinus (28-38%) or in other mediastinal places (1,2). In our case as well, the cyst was detected in the right paracardiac region as expected.

Even though they are congenital lesions, pericardial cysts are usually diagnosed in the elderly population. The reason behind this is that these cysts are asymptomatic and incidentally diagnosed. There are very few cases diagnosed in under 18-year-old children (1). Although these cysts are often asymptomatic and only follow-up is sufficient, respiratory distress, atypical chest pain, dyspnea, persistent cough, erosion of right walls of ventricles or superior vena cava can be seen, because cysts put on pressure the nearby organs. Furthermore, in very rare cases, pressure can cause a cyst to rupture and lead to a pericardial and pleural effusion and even sudden death (6,7). Surgical resection should only be considered in symptomatic patients (8). Our case was also an asymptomatic phenomenon.

Received: 12.01.2019 **Accepted:** 07.05.2019 **Available online:** 04.07.2019
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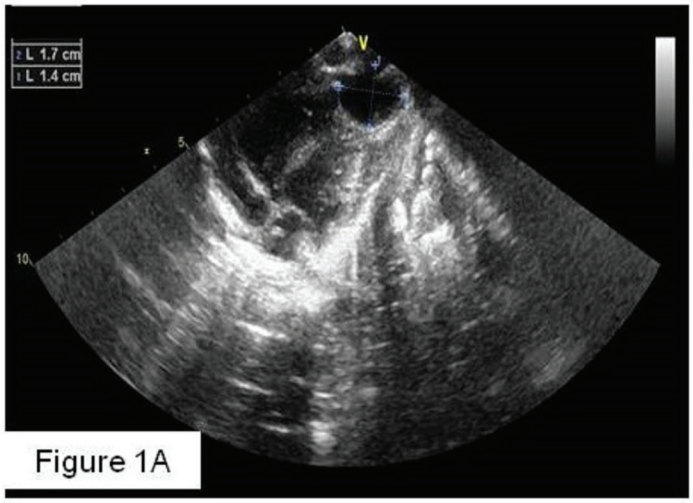

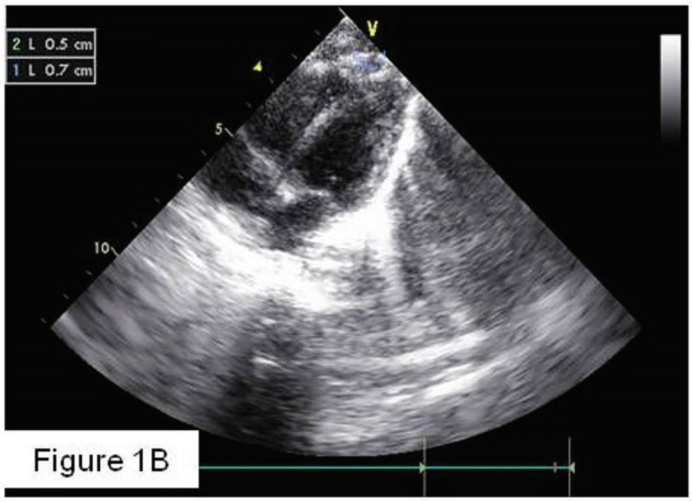

Figure 1A. Echocardiographic appearance of the patient at the time of diagnosis: a non-hemodynamical cyst that was thought to be coupling in the right ventricular pericardium, located in the cardiac apex in apical 4-chamber view.
Figure 1B. Echocardiographic views of pericardial cyst after 8-month follow up. Note the regression of pericardial cyst.

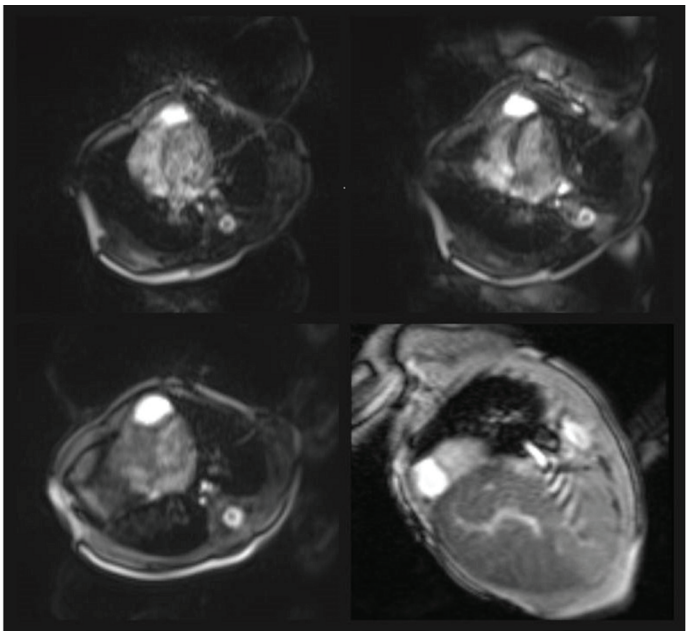

Figure 2. Cardiac magnetic resonance imaging: T2-weighted images of the lesion compatible with the pericardial cyst at a significant hyperdense signal intensity

To diagnose pericardial cysts, two-dimensional echocardiography, CT-scan and for infants, preferably cardiac MR are sufficient. In cases where transthoracic echocardiography fails to be sufficient, transoesophageal echocardiography (TEE) can be used for diagnosis. TEE is useful for detecting rather atypical located pericardial cysts and distinguishing other lesions located posteriorly (9). Invasive research is not required. These cysts are monitored at cardiac MR imaging at T1-weighted imaging as hypointense, at T2-weighted imaging as hyperintense (10). In our case as well, the cyst was distinctly monitored at T2-weighted imaging as hyperintense.

In conclusion, pericardial cysts are usually asymptomatic andbenign lesions with a favorable prognosis. These cysts very rarely diagnosed in infants and children. After diagnosing with imaging methods, transthoracic echocardiography is sufficient for follow-up of asymptomatic cases.

Competing interests: The authors declare that they have no competing interest.

Financial Disclosure: There are no financial supports

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