Acute Cardiac Tamponade Caused by Massive Hemorrhage From Pericardial Cyst

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A 12-year-old girl with no significant previous cardiac history was transferred to our university hospital because of 1 week of high fever and dyspnea. On physical examination, the heart sounds were muffled, the heart rate was 110 bpm, the respiratory rate was 32 breaths per minute with dyspnea, and the blood pressure was 110/75 mm Hg. A chest radiograph revealed marked cardiac enlargement (Figure, A). A CT demonstrated multiple cystic structures in the pericardial cavity, which were slightly enhanced by contrast medium (B). 2D echocardiography exhibited massive pericardial effusion with multiple moving cystic structures near the left atrial appendage and the apex (C and D). Because percutaneous needle aspiration yielded bloody pericardial fluid, massive hemorrhage from the cystic tissue was suspected. Three hours after admission, the patient’s blood pressure had fallen to 74/46 mm Hg. An emergency drainage and resection of the abnormal tissues was undertaken by median thoracotomy. Approximately 1000 mL of bloody fluid was aspirated from the pericardial cavity. Several blood-containing cysts with extracystic hemorrhage were found near the left atrial appendage, and 2 yellowish cysts were also found near the apex (E). These cysts attached to a peduncle that originated from the posterior wall of the pericardial cavity near the right bronchus and ran down to the apex via the left atrial appendage. The total abnormal tissue was almost completely resected from the adherent neighboring tissues. Microscopic examination showed that the cyst wall consisted of a vascularized, fibrous connective tissue and a single layer of mesothelial cells (F). In some areas of the cysts, polymorphonuclear leukocytes were seen, indicative of an inflammatory process. Culture of the pericardial effusion was negative. No evidence of malignancy was noted. The pathological diagnosis confirmed pedunculated and hemorrhagic pericardial cysts. The patient’s postoperative course was uneventful. During a 10-month follow-up, she has had no sign of constrictive pericarditis.
A, Chest radiograph demonstrates marked enlargement of cardiac silhouette (cardiothoracic ratio 89%). Contrast-enhanced CT (B) and 2D echocardiograms (C, long axis; D, short axis) exhibit massive pericardial effusion (PE) and cystic structures (arrowheads) in pericardial cavity. E, Resected tissue shows blood-containing cysts and yellowish cysts originating from a peduncle. F, Cyst wall consists of vascularized connective tissue and flat mesothelial cells (arrowhead). B through E, Bar=2.0 cm; F, bar=200 μm. LV indicates left ventricle.
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