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Left Pulmonary Artery Obstruction Due to a Large Congenital Thymic Cyst: A Rare Pulmonary Stenosis Cause

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Objective: Thymic cysts occur relatively rarely and account for only about 3% of all anterior mediastinal masses. Mediastinal thymic cysts are usually asymptomatic and are incidentally found on routine chest roentgenograms. They may rarely cause symptoms of vascular obstruction. This study presents a case of thymic cyst that caused pulmonary artery obstruction and respiratory symptoms.

Methods: A 9-year-old boy was admitted to our hospital with shortness of breath on exercise that had been ongoing for one month. On admission, his physical examination and routine blood tests were within normal limits. The chest x-ray showed a large round-shaped opacity of left perihilar localization. Transthoracic echocardiography revealed a solid-cystic mass obstructing the left pulmonary artery with a 20 mmHg systolic pressure gradient. Computed tomography of the thorax revealed a round shaped, smooth boundary cystic tumor, in close proximity to the main and left pulmonary artery in the anterior mediastinum. Surgical exploration by median sternotomy revealed an encapsulated multilocular cyst arising from the left lobe of the thymus. The cyst was localized posterior of the left phrenic nerve and in close proximity to the main and left pulmonary artery. It was completely removed by a resection of the thymus.

Results: After an uneventful recovery, the patient was discharged on postoperative day 3. The gross macroscopic examination revealed a unilocular cyst, measuring 80x65x15 mm with a cyst wall thickness of approximately 3 mm. The posterior wall of the cyst was thickened with granulation. The histological and cytological examination revealed cuboidal epithelium and lymphocytes, which were on benign pattern. The pathological diagnosis was congenital thymic cyst.

Conclusions: These cysts are usually asymptomatic, they may cause large variety of symptoms. Although thymic cysts are benign lesions, there are more malign lesions with cystic changes including thymoma, teratoma, lymphoma or seminoma. For that reason, most authors agree that surgical resection remains the curative treatment of choice, and histological examination is the only definitive means of diagnosis. In summary, this is the first report of a congenital thymic cyst in which pulmonary artery compression related symptoms and relieved of symptoms after surgical treatment were shown.