

Mediastinal Parathyroid Cyst - A Case Report -

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The mediastinal parathyroid cyst is a very rare cause of space occupying lesions in the mediastinum. We report a case of a non-functioning mediastinal parathyroid cyst that occurred in a 42 year-old male. He suffered from foreign body sensation of the throat whenever he was in the supine position. A chest computed tomography showed a round cyst with a narrow base attached to trachea. It was white and tan, thin-walled semi-transparent cyst containing yellow and tan serous fluid. Microscopically it was characterized by a thin fibrous wall lined with a single or double layer of uniform cells with clear cytoplasm and small nuclei. The lining cells were immunopositive for chromogranin A.

Key Words : Mediastinum-Parathyroid Glands-Cyst

A 42-year-old man was admitted to the hospital because he suffered from foreign body sensation that was felt from of the throat to the upper abdomen whenever he was in the supine position. The patient did not have a remarkable clinical history. A chest computed tomography revealed a cystic lesion in the mediastinum (Fig. 1). The lesion was suspected to be a bronchogenic cyst. The serum calcium level was within the normal range, and other laboratory findings were unremarkable. A 4.5 cm sized transparent cystic mass along the anterior surface of the trachea was identified in the mediastinoscopic field. There was no connection with the trachea or esophagus. Under gross examination, the cyst was gray and tan and thin-walled, and contained tan serous fluid. Under histologic examination, the cyst showed a thin fibrous wall lined by a single or double layer of uniform cells with clear cytoplasm and small nuclei (Fig. 2). These cells were also present in clusters (Fig. 3A). There were dilated, congested blood vessels. On immunohistochemistry, the lining cells were positive for chromogranin A (clone DAK-A3, Dako, Denmark) (Fig. 3B).

The mediastinal parathyroid cyst is a very rare cause of space

occupying lesions in the mediastinum.^{1,2} It is difficult to make clinical impressions of mediastinal parathyroid cysts before operations.^{3,4} To our knowledge mediastinal parathyroid cysts have not been reported in Korea. On routine chest X-ray examinations, the cyst is often accompanied by an asymptomatic mediastinal mass.⁴ Symptoms arise as results of mass effect or hyperparathyroidism. Cases of dyspnea caused by tracheal deviation or dysphagia due to esophageal compression have been reported.⁵ Hoarseness due to pressure on recurrent laryngeal nerve has also been noted. About 41% of the lesions can be associated with hyperparathyroidism, which are classified as functioning cysts. These were documented to have elevated serum calcium levels and elevated serum parathyroid hormone levels.³ In some patients, persistent mild hypocalcemia after the removal of the cyst have occurred.³ Cytologic examination revealed the presence of epithelial cells, singly and in small clusters. Their epithelial cells had dark, round nuclei and scanty, ill-defined configurations, showing PAS-positive cytoplasmic granules.⁶

There are several theories regarding the development of parathyroid cysts. The proposed hypotheses include cystic



Fig. 1. Chest computed tomography shows a mediastinal cystic mass (arrows) abutting trachea and esophagus.

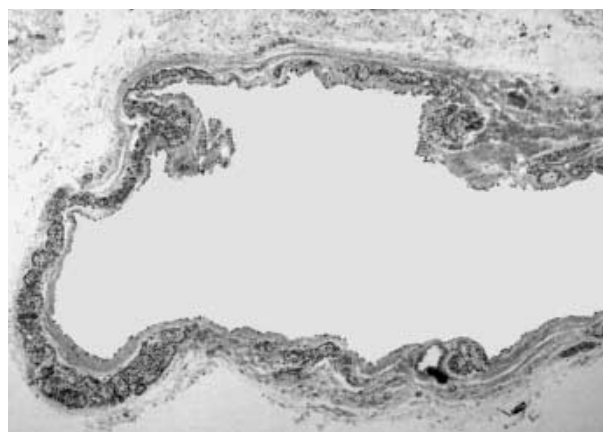


Fig. 2. The mediastinal parathyroid cyst shows thin fibrous wall lined by single or double layer of uniform cells. These cells are also present in clusters in the wall.

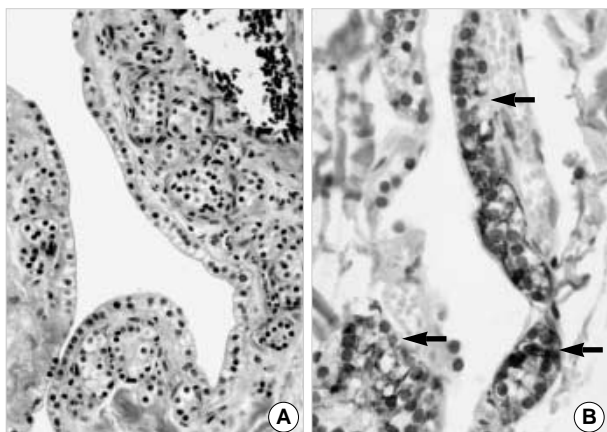


Fig. 3. (A) The lining cells of the cyst are uniform with clear cytoplasm and small nucleus. (B) The immunohistochemical staining for chromogranin A shows positive reaction in the cytoplasm of the lining epithelial cells (arrows).

degeneration of the adenoma, retention of the cyst, and embryonic remnant of the third or fourth branchial cleft.⁷ The parathyroid cyst can be located in the superior neck to the mediastinum. Mediastinal location of a parathyroid cyst is possible depending on two factors. First, the cysts descend into the mediastinum because of their weight and intrathoracic negative pressure. Second, the cysts arise from the heterotopic mediastinal parathyroid.^{3,7}

In the most reported cases, the patients had been treated with

open surgical resections, but some authors have diagnosed and treated parathyroid cysts with fluid aspiration only.⁷ There have been no deaths reported in these cases.^{1-3,7}

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