

Parathyroid gland cyst as an unusual cause of superior mediastinal mass

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The finding of a chest X ray performed in a 59-year-old man as a routine diagnostic tool for preoperative assessment for inguinal hernia showed an asymmetric opacity in the superior mediastinum, eccentric to the right. CT of the chest was indicated and the obtained images showed the presence of right paratracheal cystic mass extending from sternoclavicular joint to azygos vein. Although the patient was asymptomatic, anterolateral thoracotomy with cyst extirpation was performed. Histopathologic evaluation revealed a cyst originating from parathyroid gland.

KEY WORDS: Parathyroid Glands; Mediastinal Cyst

INTRODUCTION

Microscopic cysts of the parathyroid gland can be found in both normal and pathologically affected parathyroid glands while clinical manifestation is quite rare. Radiologists or clinicians can therefore misinterpret parathyroid gland cysts. They are usually presented like solitary mass containing bright or milk-like liquid, varying in size from 1 cm to 9 cm (1). The wall of the cyst is composed of fibrous tissue and surrounded with a layer of cuboid cells. Some authors have opinion that parathyroid cysts represent confluent microcysts, while other suggest that parathyroid cysts represent the cystic degeneration of adenoma or some other hyperplastic node what may explain their relation with parathyroid function. Functional cysts are less frequent and they are usually detected due to associated hypercalcemia, while non-functional cysts remain asymptomatic or cause the symptoms because of mass effect on surrounding organs (2).

CASE REPORT

The finding of a chest X ray performed in a 59-year-old man as a routine diagnostic tool for preoperative assessment for inguinal hernia showed an asymmetric opacity in the superior mediastinum, eccentric to the right (Figures 1,2).

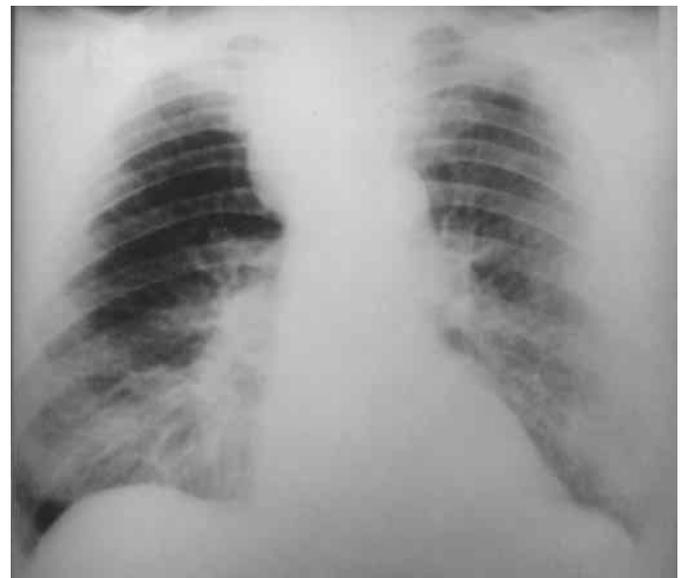


Figure 1. Chest X ray showing widening of the superior mediastinum opacity to the right

CT of the chest was indicated and obtained images showed the presence of right paratracheal cystic mass extending from sternoclavicular joint to azygos vein associated with a mass effect on trachea and measuring approximately 10 cm in the longest dimension (Figures 3,4).

The patient was asymptomatic. The findings from the physical examination of the chest were normal, and the results of laboratory tests showed no significant abnormalities. Abdominal ultrasound revealed no abnormalities. Bronchoscopic examination found trachea slightly displaced to the left and extramural compression of the right tracheal wall. The mass was approximately followed in the length of three tracheal cartilage rings.

During video-assisted thoracoscopy a large retrocaval cyst was

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Figure 2. Lateral X ray of the chest showing the opacity in the superior mediastinum, measuring approximately 9 cm in diameter

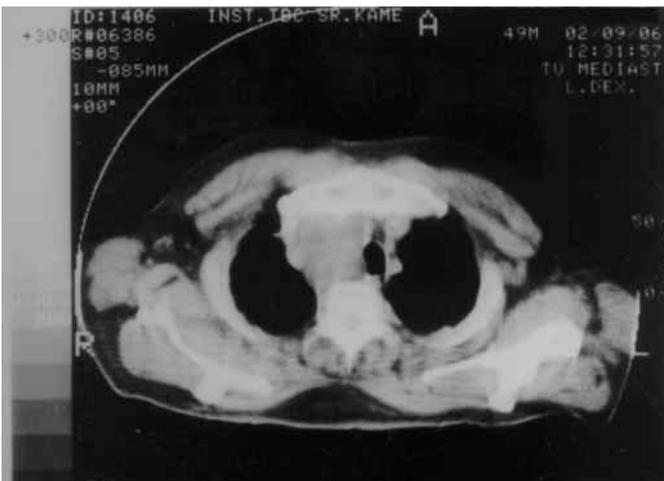


Figure 3 and 4. CT of the thorax (mediastinal window) shows heterogeneous right paratracheal mass extending from the right sternoclavicular joint to the azygos vein

seen. Because extirpation was not possible anterolateral thoracotomy was indicated, and total extirpation of the cyst was performed. The cyst had well-defined margins and measured 10 cm in diameter. Histopathologic evaluation found a cyst originating from parathyroid gland and containing fibrous and adipose tissue with rare focal lymphocytes, and with main and oxyphilic cells of the parathyroid gland. Internal surface was covered with one line of cuboid epithelial cells.

Postoperative course was normal. No significant abnormalities were seen on control chest X ray.

DISCUSSION

While microscopic cysts of the parathyroid gland are frequently seen on histological examination, macroscopic cysts, measuring more than 1cm in diameter are extremely rare. Since 1905 when parathyroid gland cyst was reported for the first time (3), 162 cases of parathyroid gland cysts have been reported (4). They usually measure between 3 cm to 5 cm. They are most frequently localized in the neck while only 10% to 15% are found in mediastinum (5). They appear in all age groups, but most frequently in the 5th and 6th decade of one's lifetime. Nonfunctional cysts are 2.5 times more frequent in women, while functional cysts are 1.6 times more frequent in men (5). Although rare, parathyroid gland cysts should be considered in the differential diagnosis of the neck and mediastinal masses. In order to establish correct diagnosis recognition of the cystic characteristics of the mass and aspiration of the fluid are important (2,5). The level of parathyroid hormone can be elevated in functional cysts (4,6) although Clark does not consider it as definite sign to confirm the presence of functional cyst (5).

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