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A rare case of pulmonary hyalinizing granuloma with calcification in a 5 year old boy

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ABSTRACT

Pulmonary hyalinizing granuloma (PHG) is a rare benign pulmonary nodular lesion of unknown etiology. We present a case of a 5-year-old boy who was found to have a chest mass while being evaluated for abdominal pain. He underwent a CXR and CT scan that showed popcorn calcifications in the right posterior mediastinum and within the hilum of right lung. These lesions were suspicious for benign calcified lymph nodes and follow-up chest CT after 3.5 months showed no interval changes in the calcified mediastinal masses. Extensive testing ruled out infectious diseases and malignancies. Given the unknown etiology of the lesions, he underwent VATS biopsy that demonstrated a nodular lesion characterized by a peripheral rim of fibrous tissue and central zone of necrosis and calcification, findings consistent with hyalinizing granuloma. PHG is extremely rare in pediatric age group. Although diagnosis of this condition is made by radiological and histopathological findings, it is important to rule out other causes of chest masses. Most of the patients usually have good prognosis with this rare disorder.

Pulmonary Hyalinizing Granuloma (PHG) is a rare, benign pulmonary nodular lesion of unknown etiology and is characterized pathologically by whorled deposits of lamellar collagen. First described by Engleman et al. [1] in 1977, there have been many descriptions and case reports of this disease; however, most of the case reports have been in adults with secondary associations with TB, fungal infections or carcinomas. The youngest case was an adolescent child [2]. We present the youngest child to date of an incidentally discovered case of PHG.

1. Case report

A 5-year-old Caucasian male with past history of ADHD, anxiety and history of constipation presented to urgent care for abdominal pain. He underwent abdominal radiography that showed a normal bowel pattern, but was incidentally noted to have calcified nodules in the right lung.

The child had no history of fevers, night sweats or weight loss. His mother noted that he had generalized fatigue over the previous month, but otherwise was in his usual state of health. Approximately a year before presentation, he exhibited a month-long URI-type illness predominated by cough. His history was also significant for being exposed to an abandoned chicken coop but he did not have any direct contact with farm animals or birds. His travel had been limited to southeast United States. On physical exam, he was a healthy child without any respiratory findings.

A repeat chest radiograph confirmed the previous findings of a right parasternal calcified lesion measuring 1.7 × 1.6 cm. He underwent chest CT scan without contrast which showed popcorn calcification in the right hilum and azygoesophageal groove, suspicious for benign calcified lymph nodes. Given the benign appearance of lesion, the child was observed and a follow up CT scan was performed at 3 months. The chest CT showed no change in either the mediastinal or hilar lymph nodes, but additional lesions were identified within the left lower lobe and a new lesion was noted within the right middle lobe (Figs. 1–3).

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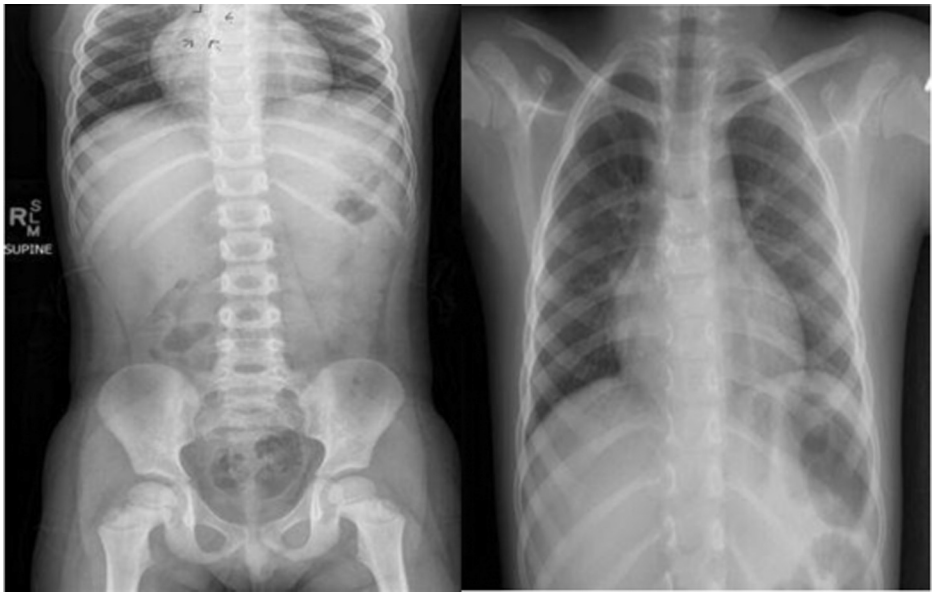

Fig. 1. Incidental finding of pulmonary calcification.

His workup ruled out histoplasmosis, sarcoidosis, hamartomas, and malignancy. Urine histoplasma antigen and serum histoplasma antibodies were negative. Serum ACE level was normal. Other routine labs, including complete blood count, electrolytes, and coagulation were normal. H. Capsulatum antibody immunodiffusion was negative.

In order to diagnose the lesion, a VATS biopsy was performed. The mass was noted to be in the retropleural space at approximately the level of the fourth intercostal space. Approximately 75% of the mass was removed. The gross findings showed a $2.0 \times 1.2 \times 1.0$ cm tan portion of soft tissue with the cut surface revealing a 1.5 cm cavity containing an abundant amount of

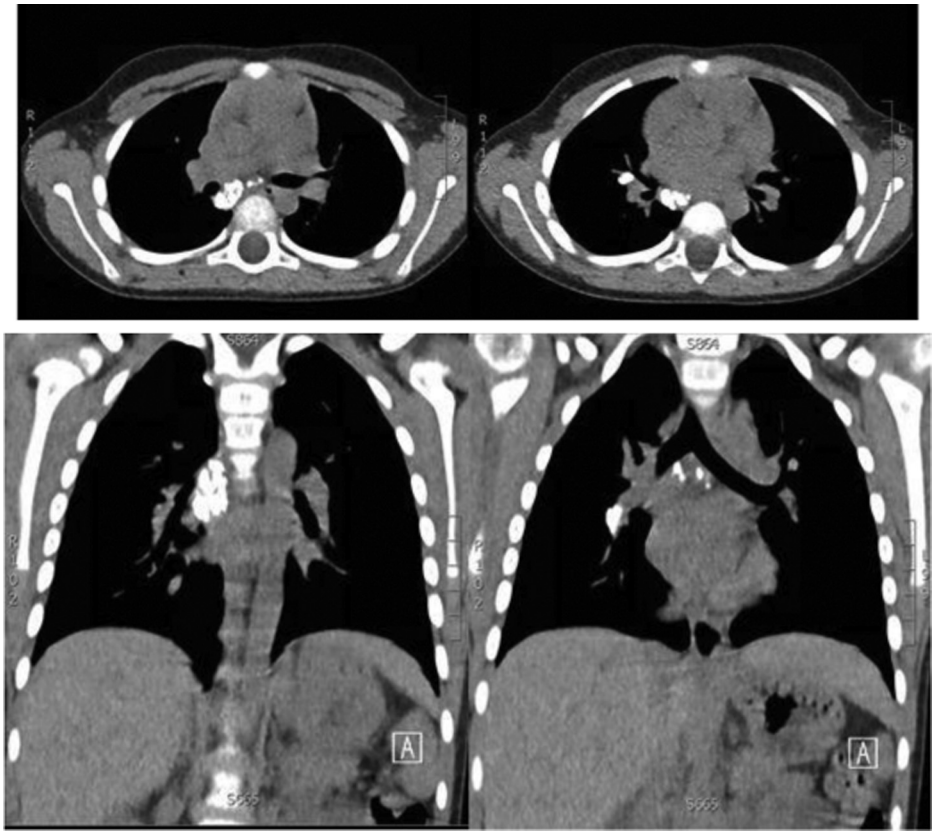

Fig. 2. CT scan findings of the perihilar mass showing calcification.