Multiple Pulmonary Sclerosing Hemangiomas of Unilateral Lung Mimicking Metastatic Lung Cancer

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ABSTRACT

Pulmonary sclerosing hemangioma often presents as a peripheral and solitary nodule in asymptomatic middle-aged women and is considered to be a benign tumor. Little is known regarding the appearance of these tumors with multiplicity. We report a rare case of multiple pulmonary sclerosing hemangiomas of the left lower lung in an asymptomatic 20-year-old man. He was initially misdiagnosed with metastatic lung cancer until he underwent video-assisted thoracoscopic surgery to confirm the diagnosis. Due to the controversy surrounding the use of invasive surgery or conservative treatment, the patient was kept on observation after the surgery. No any respiratory symptoms have happened to him for 2 years after the operation. This case demonstrates that multiple pulmonary sclerosing hemangiomas should not be misdiagnosed and close post-operative follow-up is necessary for conservative treatment.

CASE REPORT

A 20-year-old young man who had never smoked and had been in relatively good health, and was without any significant respiratory symptoms and signs was admitted to hospital. Two weeks before admission, he received a routine health examination before enrolling for military service. His chest radiograph showed multiple nodules in the left lung (Fig. 1). He was therefore referred to our hospital with a tentative diagnosis of metastatic lung cancer. Computed tomography (CT) scans of the chest (Fig. 2) revealed multiple nodules, varying from less than 1 cm to 2.7 cm in diameter in the left lower lobe, though none in the right lung and left upper lobe. Each nodule was round-shaped with a distinct margin and homogeneous density. No mediastinal lymphadenopathy was present. A CT-guided biopsy failed to make a definite diagnosis. In addition, carcinoembryonic antigen (one of the tumor markers) was within normal limits. The patient subsequently underwent video-assisted thoracoscopic surgery (VATS) to enable forming a definite pathological diagnosis. The frozen biopsies during the left lower lobe wedge resection surgery impressed pulmonary sclerosing hemangioma (Fig. 3). Therefore, no invasive
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surgeries were performed. The patient was discharged without any complications four days after the operation. Till now he has been keeping on asymptotically at outpatient department for 2 years.

DISCUSSION

Pulmonary sclerosing hemangioma (PSH) is a relatively rare benign tumor, which was first described by Liebow and Hubbell in 1956 [1]. Histologically, typical cases present a mixture of solid, sclerotic, papillary and hemorrhagic components. Recent studies suggest that PSH is derived from primitive respiratory epithelium and demonstrates neoplastic differentiation [3, 4]. Most patients are asymptomatic, with less than one-third experiencing hemoptysis, coughs, or chest pain [3].

Most cases of PSH appear on CT scans of the chest as a solitary round or oval well-defined nodule, with calcification present in approximately one-third of patients [3]. Multiple nodules reportedly account for only 4% of all cases [2, 3]. Because of its rarity, the natural course of multiple PSHs has not been well understood. The clinical features are usually benign, and the prognosis after surgical excision is usually excellent [3, 5]. However, certain authors regard PSH as a potentially low-grade malignancy because a few cases of lymph node metastasis have been reported [6]. Previous reports have indicated that, although rapid progression might occur in a solitary PSH [7], multiple PSHs tend to be slow-growing. Although one report documented the successful treatment of unilateral progressive multiple PSHs by pneumonectomy [8], another case study described multiple PSHs that were stable over ten years [9].

Because the tumors were histologically benign in our patient, and due to the controversy surrounding the use of invasive surgery or surgical excision only, he was kept on observation after the VATS biopsy.

Figure 1

Chest radiograph shows multiple small nodules in the left lower lung zone

Figure 1
CONCLUSION

We reported and documented a rare case of multiple PSHs of the lower left lung in an asymptomatic young man. This case and review of the literature suggests that multiple PSHs should not be misdiagnosed. Furthermore, close post-operative follow-up is necessary for conservative methods due to its controversial treatments.
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REFERENCES


Figure 3

Figure 3. a. Pulmonary sclerosing hemangioma presents in histology as well-circumscribed intra-parenchymal nodules, which contain a mixture of solid, sclerotic, papillary, and hemorrhagic components (100 X, H & E stain). b. Microscopically, the cuboidal cells are thought to be entrapped alveolar pneumocytes and bronchiolar epithelium, while the round cells are regarded as neoplastic cells (200 X, H & E stain).