A rare case of sclerosing hemangioma of the lung with a review of literature

Laxmi Niwas Tiwari, Deependra Kumar Rai
Department of Pulmonary Medicine, AIIMS, Patna, Bihar, India

ABSTRACT

A rare case of sclerosing hemangioma (SH) of the lung is described in a 23-year-old gentleman, who presented with cough with expectoration, breathlessness, and left-sided chest pain with recurrence. We present a brief review of SH, an uncommon but histologically distinctive neoplasm of the lung. SH of the lung is generally considered to be a benign lesion, and surgical excision is curative without the need for additional treatment.

KEY WORDS: Sclerosing hemangioma; Lung; Bronchoscopy; Histopathology

INTRODUCTION

Liebow and Hubbell[1] first time in 1956 described that sclerosing hemangioma (SH) is an uncommon lung tumor initially thought to be of vascular origin. Although the name implies its vascular origin, most of researchers believe that it is epithelial tumor, possibly originated from the pulmonary epithelium (type II pneumocyte).[2] Because of this, it has been also called “pneumocytoma.” The WHO still prefers to use the term SH for historic reason.[3] SHs classically present as asymptomatic, peripheral, solitary, well-circumscribed lesions that mainly occur in middle-aged women (5:1.5). On chest radiographs, SH typically presents as a peripheral, solitary, well-defined, nodule or mass without predilection for a particular lobe.[4] Calcification is seldom seen and caviation does not occur.[5] We herein report a case of a rare lung tumor called SH in male patients.

CASE REPORT

A 23-year-old gentleman presented with chief complaints of cough with expectoration for 2 months, breathlessness for 15 days, and left-sided chest pain for 10 days. He was an occasional smoker and alcoholic. On examination, the patient was afebrile and had a heart rate of 98 beats/min, respiratory rate of 20 breaths/min, blood pressure of 118/70 mmHg, and oxygen saturation of 94% at room air. Examination of the respiratory system revealed absent breath sounds in the left hemithorax. General physical and other systemic examination was unremarkable. Chest radiograph posteroanterior view showed unilateral homogenous opacity in the left side with trachea and mediastinum shifted to the left side [Figure 1]. On computed tomography chest, a well-defined homogenously enhancing mass lesion is seen in the left main bronchus causing collapse of the left lung and mediastinal shift toward the left.
side [Figure 2a and b]. Bronchoscopy was performed which showed that a pedunculated mass in the left main bronchus protruding into the trachea [Figure 3]. Bronchoscopic brush and biopsy taken from endobronchial lesion showed normal looking ciliated columnar epithelial cells along with reserve cells, without atypical cells in brush cytology. On biopsy, features suggestive of benign sclerosed vascular lesion [Figure 4] were seen. After diagnosis, the patient was advised to consult a thoracic surgeon for further management. The patient was not turned up further to describe further course of disease.

**DISCUSSION**

SH of the lung is a rare tumor without a definitive classification. It predominantly occurs in females over 40 years of age. Based on the findings of higher incidence in females, immunohistochemical studies showed tumor positive for both estrogen receptors and progesterone receptors, suggesting a some relationship between this tumor and female sex hormones. Diagnosis is generally delayed because most of them are asymptomatic until the time of diagnosis. This case found in young male which is rare occurrence as most of the case report described in a female of the 4th–5th decade. SHs of the lung are mainly found incidentally, and symptoms occur due to the pressure effect of enlarging tumor and compression of surrounding tissue. SH is often detected incidentally as a round, well-defined homogenous mass lesion on routine chest radiograph. Several differentials of SH include hamartoma, cavernous hemangioma, inflammatory lesions, arteriovenous malformations, malignant teratomas, or angiosarcomas. The histologic differential diagnosis includes benign and malignant lung tumors and metastatic carcinoma. The distinction between benign and malignant can be difficult, particularly at the time of intraoperative consultation. However, the typical radiologic and macroscopic findings of a well-circumscribed tumor strongly favor a benign neoplasm and should lead a pathologist to exercise caution before diagnosing a lesion as malignant. The main malignant neoplasms in the differential diagnosis are bronchioloalveolar carcinoma, metastatic papillary thyroid carcinoma, metastatic renal cell carcinoma, and carcinoïd. The presence of the two distinct epithelial cell populations and the mixture of architectural patterns are helpful in differentiating SH from bronchioloalveolar carcinoma with a papillary architecture. Immunohistochemistry for neuroendocrine markers is negative in SH, except for areas with entrapped respiratory epithelium containing neuroendocrine cells. Benign lung tumors in the differential diagnosis include clear cell tumor,
pulmonary hamartoma, and hemangioma. In contrast to SHs, clear cell tumors have abundant clear cells with scant stroma, thin-walled vessels, and strong Human Melanoma black (HMB)-45 expression. Pulmonary hamartomas can have a wide variety of microscopic appearances, but they are usually readily identifiable by their combination of cartilage, myxoid stroma, adipose tissue, and trapped respiratory epithelium. True hemangiomas of the lung are very rare, have either a cavernous or capillary morphology, and lack epithelial cells. SHs of the lung are generally considered benign lesions, and surgical excision is curative without the need for additional treatment. Lymph node metastasis is rare and apparently does not affect prognosis. Hence, SH generally has low malignant potential, and mortality is hardly due to tumor lesion.

**CONCLUSION**

A rare case of SH of the lung which predominantly occurs in females is described in a young gentleman. SH should be considered as differential diagnosis in patients having endobronchial mass lesion for longer duration.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**

There are no conflicts of interest.

**REFERENCES**