Benign metastasizing leiomyoma (BML) is a rare disease with scattered case reports in the literature. The clinical presentation is often asymptomatic. The initial imaging of the patient is usually performed for other indications. We report on a patient with benign leiomyoma metastasizing to bilateral lung fields after a hysterectomy for uterine leiomyoma 16 years ago and review the imaging features of benign metastasizing leiomyoma.

Case Report

A 52-year-old female without known malignant history came for abdominal CT due to a suspicious liver tumor on healthy examination sonography. The abdominal CT showed a few pulmonary nodules in the bilateral basal lung fields. The patient subsequently received a chest CT which revealed multiple pulmonary nodules scattering in both lungs with the largest nodule, in the right middle lobe of lung, measuring up to 1.6cm in diameter (Fig. 1). Neither obvious pleural effusion nor enlarged mediastinal lymph nodes were found. Video-assisted thorascopic surgery was performed and pathology showed nodular proliferation of bland-appearing smooth muscle cells with entrapped bronchiolar epithelium (Fig. 2). In immunostains, the neoplastic cells were positive for SMA, desmin and h-caldesmon, but negative for HMB-45. Stains for ER and PR were not performed. Tracing back the patient’s history, we found the patient had received a hysterectomy for uterine leiomyoma 16 years ago. A diagnosis of benign metastasizing leiomyoma was therefore considered.

Discussion

Benign metastasizing leiomyoma (BML) was first described by Steiner in 1939. It commonly affects women who have undergone hysterectomy for leiomyomas. It was termed multiple fibroleiomyomatous hamartomas when being considered originating in situ in the lungs in the past. Most pathologists now accept that these lesions are hematogenous metastases from morphologically benign uterine tumors [1-2].

Extra-uterine organ involvement that has been
The condition is often discovered incidentally on images for other indications. However, patient morbidity and mortality due to cardiac or large obstructive pulmonary leiomyoma causing secondary dyspnea has been reported [1-2]. Other symptom includes fever or mild non-productive cough. The typical radiologic presentation of pulmonary metastasizing leiomyoma is multiple well-defined pulmonary nodules on either chest plain film or CT images. Smooth margin without predominant distribution is characteristics of these nodules. As reported in the literature, the size of the nodules ranges from sub-centimeter to 13 centimeters [1-3]. A cystic component or cavitation has been described in a single case report. Calcification within the nodule is not typical features. Other unusual imaging findings of benign metastasizing leiomyoma that have been described include military pattern, simulating interstitial lung disease pattern and solitary nodule [2, 6]. Associated pleural effusion or enlarged mediastinal lymph nodes are rarely found and may suggest other differential diagnosis. These nodules often show very slow growth or spontaneous regression.

Figure 1. a, b. Chest plain film and chest axial CT shows multiple well-circumscribed nodules in bilateral lung fields, without a preponderant distribution. c. The largest one of these scattered nodules is located in the right middle lobe of lung.

Figure 2. a. Histologic section of one of the well-circumscribed nodules (H&E, x40). b. The nodule is composed of interlacing fascicles of bland-appearing smooth muscle cells with entrapped bronchiolar epithelium (H&E,x200).
is difficult to distinguish benign metastasizing leiomyoma from hematogenous metastases of malignant tumors only by radiologic findings alone. The possibility of malignant tumors should be excluded and information from a detailed past clinical history key to accurate diagnose of benign metastasizing leiomyoma.

In summary, patients often came for other purposes and incidental observation of pulmonary lesions which usually appear multiple well-circumscribed nodules without predominant location of bilateral lung fields. A differential diagnosis of benign metastasizing leiomyoma should be considered in asymptomatic patients who have in the past undergone a hysterectomy for uterine leiomyoma and present with multiple pulmonary nodules.

REFERENCE


6. Shin MS, Fulmer JD, Ho KJ. Unusual computed tomographic manifestations of benign metastasizing leiomyomas as cavitary nodular lesions or interstitial lung disease. Clin Imag 1996; 20: 45-49