Retrocrural Cystic Lymphangioma*
Sadayuki Murayama, M.D.†

Pure posterior mediastinal cystic lymphangiomas are very rare and have seldom been documented. This is the report of such a case, including the ultrasonographic and computed tomographic manifestations of the lesion, the first documentation of such manifestations in the literature.

Purely mediastinal cystic lymphangiomas are very uncommon. Most of them occur in the superior or anterior mediastinum; less than 10 percent are in the posterior mediastinum.1 There have been few published reports of posterior mediastinal cystic lymphangiomas.2 This is a report of a retrocrural cystic lymphangioma documented by chest radiography, ultrasonography, and computed tomography.

CASE REPORT

A 66-year-old asymptomatic man's routine chest x-ray film revealed a posterior mediastinal mass. He had no history of trauma or surgery. There was no evidence of lymphadenopathy on palpation. An oral cholecystogram ten years previously showed widening of the left paraspinal musculature at the level of the 12th thoracic vertebra. Posteroanterior (PA) stereoscopic and left lateral projections of the chest showed a 7-cm diameter round mass to the left of the bodies of T11, T12, and L1 (Fig 1). Anteroposterior (AP) tomograms showed a large posterior mediastinal mass extending retroperitoneally, compressing and slightly displacing the left kidney laterally and the left crus of the diaphragm anterolaterally. This crus was visualized between the mass and the spleen in the AP tomogram. Subsequent ultrasonography revealed a unilocular cystic mass above the left kidney (Fig 2).

Computed tomography showed a large mass resulting in low attenuation adjacent to the thoracolumbar region (Fig 3). The left crus of the diaphragm was markedly displaced anterolaterally by the mass. The attenuation of this mass varied between 10 and 40 Hounsfield units (HU) on the noncontrast scans, but with contrast, it appeared to be a cyst with a relatively thin wall. Necrotic

*From the Department of Radiology, Radiation Effects Research Foundation, Hiroshima, Japan. The Radiation Effects Research Foundation, successor to the Atomic Bomb Casualty Commission, was established in April 1975 as a Japanese Foundation, engaged in observations for late effects of atomic bombs, and is sponsored by the Ministry of Health and Welfare and the Foreign Ministry. It is supported equally by funds from Japan provided through the Ministry of Health and Welfare, and from the United States, provided through the National Academy of Sciences under contracts with the Department of Energy and the National Cancer Institute.
†Presently at Department of Radiology, Kyushu University Hospital, Fukuoka, Japan.
Reprint requests: Walter J. Russell, M.D., Radiation Effects Research Foundation, 5-2 Hiyajima Park, Minami Ward, Hiroshima 730, Japan
uncommon; 75 percent occur in the neck, 20 percent in the axilla; the remaining 5 percent in the mediastinum, omentum, pelvis, groin, spleen, bone, and skin. 4 Purely mediastinal cystic lymphangiomas comprise less than 1 percent of the total. Posterior mediastinal cystic lymphangiomas are especially rare; they comprise less than 10 percent of all mediastinal cystic lymphangiomas. 4 To our knowledge, there have been no published reports of ultrasonographic and computed tomographic manifestations of posterior mediastinal cystic lymphangiomas. Several reports have described computed tomographic evaluations of images of retrocrural spaces and lesions including retrocrural air, pleural fluid, lymphomas, 5 neurofibromatosis 6 and enlarged lymph nodes. The crura in these cases were displaced anterolaterally. The left crus of the present case was displaced anterolaterally by the tumor in the retrocrural space. Figure 2 shows that the tumor originated in the paravertebral region at the level of the 12th thoracic vertebra. This strongly suggests that the tumor was in the retrocrural space because, anatomically, the left crus originates from parts of the first two lumbar segments.

Normally, the retrocrural space is nearly completely enveloped by fatty tissue. It contains the aorta, the azygos and hemiazygos veins, nerves, lymph nodes, and cisterna chyli, the origin of the thoracic duct. The tumor of the patient described here could have arisen from the cisterna chyli or the thoracic duct. Cystic lymphangiomas can be confirmed by virtue of the fact that they are filled with chylous fluid. Percutaneous aspiration of the tumor in the patient described here proved it to be a cystic lymphangioma. Large lymphangiomas are often associated with apparent obliteration of the thoracic duct. 5

Recently, Pilla et al 6 have reported computed tomographic evaluations of superior and anterior mediastinal cystic lymphangiomas. To our knowledge, this is the first published report of ultrasonographic and computed tomographic evaluations of a retrocrural cystic lymphangioma. The variable attenuation of this tumor using noncontrast computed tomography is consistent with reported 5 findings of cystic lymphangiomas.

ACKNOWLEDGMENT: The author is indebted to Katsuhide Ito, M.D. for supplying the computed tomographic illustration, and to Mrs. Grace Masumoto for her assistance in preparing the manuscript. Also appreciation is extended to Yokogawa Medical Systems and the General Electric Company for being very considerate and generous in providing a C.E. Datason contact-compound ultrasonographic scanner which has proved invaluable in our imaging. Some of the images appearing in this report were made using this unit.

REFERENCES

Atrial Arrhythmias Exacerbated by Theophylline*

Response to Verapamil and Evidence for Triggered Activity in Man

Francis E. Marchlinski, M.D.,† and John M. Miller, M.D.

A 75-year-old woman with acute respiratory failure due to pneumonia superimposed on bronchoplastic chronic obstructive pulmonary disease and dilated cardiomyopathy developed multifocal and unifocal atrial tachycardia. Arrhythmia recurrence appeared to be dependent on reaching a critical but "nontoxic" serum theophylline concentration in the presence of high normal levels of digoxin. The arrhythmias responded to a decrease in serum theophylline concentration or to the administration of verapamil. The precipitation of the atrial arrhythmias by theophylline in the absence of digitalis, both of which may increase intracellular calcium and a dramatic response to verapamil, which inhibits calcium uptake and release, suggests that these arrhythmias may represent an example of "triggered activity" in man.

A recent study suggested that multifocal atrial tachycardia may be precipitated by increased serum concentrations of theophylline. 7 The current study relates the precipitation of both multifocal atrial tachycardia and a regular, rapid atrial tachycardia in association with "nontoxic" theophylline se-

*From the Clinical Electrophysiology Laboratory, Hospital of the University of Pennsylvania, and the Cardiovascular Section, Department of Medicine, University of Pennsylvania School of Medicine, Philadelphia. Supported in part by grants from the American Heart Association, Southeastern Pennsylvania Chapter, Philadelphia, and grants HL28093, HL24278, and HL07346 from the National Heart, Lung, and Blood Institute, Bethesda.
†Supported by the University of Pennsylvania, Department of Medicine Messey Foundation.

Reprint requests: Dr. Marchlinski, Raadin Building, Rm 656B, Hospital, University of Pennsylvania, Philadelphia 19104

CHEST / 88 / 6 / DECEMBER, 1985 931

Downloaded From: http://journal.publications.chestnet.org/pdfaccess.ashx?url=/data/journals/chest/21498/ on 04/04/2017