Echogenic Mobile Spherules in a Cyst as an Ultrasound Finding in Cystic Mediastinal Teratoma

Prem Kumar · Bindey Kumar · Akhilanand Thakur

Received: 12 July 2011 / Accepted: 12 June 2012 / Published online: 24 August 2012
© Association of Surgeons of India 2012

Abstract Mature teratomas are the most common mediastinal germ cell tumor. They are mostly cystic. They are usually asymptomatic and diagnosed incidentally on chest X-ray or CT scan. The diagnosis of teratoma is usually confirmed by CT scan. It shows variable combination of fat, fluid, soft tissue component, and calcification. Ultrasound, a cheap and widely available imaging modality, also provides valuable characteristic appearances of mediastinal teratomas. We present a case of mediastinal cystic teratoma showing characteristic echogenic mobile spherules in the cyst and its brief discussion.

Keywords Cystic mediastinal · Mature teratomas · Ultrasound

Case Report

A 45-year-old woman presented to the surgical oncologist with complaints of chest pain and purulent discharge from the left nipple and a lump in the breast. Fine-needle aspiration cytology (FNAC) was performed from the breast lump and it turned out to be inflammatory in nature. The patient responded well with the antibiotic, but during routine investigation, cardiomegaly was reported in the X-ray chest (PA view). For this reason, echocardiography was carried out which was reported to be normal with note of some anterior extrinsic mass pressure on the heart. X-ray chest (lateral view) revealed as a large oval mass with calcific wall in the anterior mediastinum. CT scan was done for the evaluation of the mediastinal lesion. It showed an oval circumscribed large anterior mediastinal cystic mass with the irregular calcific wall, causing extrinsic pressure over the heart. A small eccentric fat element in it was suggestive of mediastinal teratoma. Ultrasound was done for this large cystic lesion which showed echogenic mobile spherules of variable size within the large cyst, an ultrasound sign of cystic teratoma of mediastinum [1]. Ultrasound-guided FNAC was done in which grossly cheesy material was aspirated. Epithelioid and lymphocytic cells were seen on cytological analysis Figs. 1, 2 and 3.

P. Kumar (✉)
Department of Radiology,
Indira Gandhi Institute of Medical Sciences,
Patna, India
e-mail: drprempat@rediffmail.com

B. Kumar · A. Thakur
Department of Pediatric Surgery,
Indira Gandhi Institute of Medical Sciences,
Patna, India

Fig. 1 X ray Chest PA suggests cardiomegaly & lateral view suggests calcific wall anterior mediastinal lump

Fig. 2 Ultrasound shows mediastinal cystic lump with floating echogenic spherules consistent with cystic teratoma

Discussion

CT scan is the choice of imaging investigation for evaluation of mediastinal teratomas. The presence of fat and calcification in the lesion is diagnostic for the disease. MRI provides similar information although it may not detect calcification. Ultrasound has also characteristic patterns of mediastinal teratomas [2]. There are three major patterns: a complex mass of heterogeneous echogenicity, homogeneous high echogenicity within solid mass, and mobile/floating spherules within a cystic mass. Thus, ultrasound can improve the diagnosis of mediastinal teratomas, particularly when CT scan is not available.

Fig. 3 CT scan shows anterior mediastinal cystic lump with peripheral calcifications & small eccentric fat nodule

References

1. Shih JY, Wang HC, Chang YL, Chang YC, Lee YC, Yang PC (1996) Echogenic floating spherules as a sonographic sign of cystic teratoma of mediastinum. *J Ultrasound Med* 15:603–605
2. Wu TT, Wang HC, Chang YC, Lee YC, Chang YL, Yang PC (2002) Mature mediastinal teratoma: sonographic imaging patterns and pathologic correlation. *J Ultrasound Med* 21(7):759–765