

Recurrent thymoma in the retroperitoneal space: a rare case report

Jun Yang, Qin-qing Li, Ying-ying Ding, Cheng-de Liao

Department of Radiology, The Third Affiliated Hospital of Kunming Medical University, The Tumor Hospital of Yunnan Province, Kunming, Yunnan, China

Abstract

Thymoma is an epithelial neoplasm of the thymus, which commonly lies in the anterior mediastinum and recurrences of thymoma generally are locally, and retroperitoneal recurrence is considered to be rare. A 46-year old Asian woman with invasive thymoma had undergone thymectomy 10 years ago. Computed tomography demonstrated a well-circumscribed mass in the left retroperitoneal space. The patient had not any symptom including myasthenia gravis. Because on the anterior mediastinum area shows no sign of tumor recurrence and the mass adjacent to the vertebral body, neurogenic tumor was suspected. Surgical resection was performed using a retroperitoneal approach, which revealed the tumor adhering neighboring diaphragm. The tumor was histologically diagnosed to be type B1 thymoma according to the World Health Organization classification. The retroperitoneal mass was an unusual local recurrence after thymectomy. The patients whose had under invasive thymectomy should be evaluated carefully when finding retroperitoneal mass during follow-up.

Introduction

Thymomas are one of the most common neoplasms arising in the anterior mediastinum, but it accounts for <1% of all adult malignancies.¹ All thymomas should be resected due to their malignant potential, providing patients are otherwise healthy. But some patients postoperative have recurrence. Local recurrence is more common. It usually presents itself as a pleural or pericardial nodule. Distant metastasis is usually found in lung, liver and bone.² In this paper, we present a patient with a subphrenic retroperitoneal mass. Finally, this appeared to be a recurrence of the primary thymoma. This location of a distant recurrence is unusual.

Case Report

A 46-year old Asian female was referred to our hospital after finding left retroperitoneal mass during a routine health examination in July 2012. Abdominal ultrasound examination showed left retroperitoneal mass and ultrasound doctors recommended further examination. Fluorodeoxyglucose-positron emission tomography/computed tomography (CT): left retroperitoneal tumors with increased metabolism, the mean standardized uptake values was 6.3, and made diagnosis of neurogenic tumors. But no investigations were done at that time. One year later, she was admitted for further examination and treatment at our hospital under a diagnosis of a left retroperitoneal tumor. CA-125 60.12kU/L (0-35), CA-724 12.61 kU/L (0-6.9) and CYFRA21-1 4.7 ng/mL (<3.3) mildly elevated. Other laboratory tests were normal. No abnormalities were found on physical examination. Her medical history consisted of a primarily resected invasive thymoma (Masaoka stage III; WHO B1) 10 years ago at the local hospital. Post surgery completely resection, she received once adjuvant chemotherapy and radiotherapy (drug and radiation dose were not clear). The patient without preoperative myasthenia gravis (MG), but after thymectomy the patient developed MG from 2002-2008 year. She was symptom free on pyridostigmine bromide tablets and prednisone therapy on last follow up. From 2008 to 2012 year, she had not any clinical symptoms.

CT demonstrated a well-circumscribed, homogenous solid mass (10.1×11.3 cm) without calcification and fat in the left retroperitoneal space, the CT value is about 32~37 Hounsfield units (HU). Contrast enhanced CT abdomen-thorax showed a heterogeneously medium enhancing, CT value is about 56~77 HU (Figure 1). The mass compressed adjacent organs such as stomach, adrenal and kidney, leading to ascend left diaphragm (Figure 2). There were not masses in the anterior mediastinum.

After multidisciplinary consultation, the patient agreed to accept surgery. According to the operative report, surgical resection was performed with the retroperitoneal approach from the right side, the tumor was located in the left retroperitoneal space. Although the CT images suggested that the mass was just adhered to the diaphragm, but in fact the tumor had local invaded to the diaphragm on the abdominal side (not transdiaphragmatic spread). The tumor and 3×4 cm adjacent diaphragm muscle were removed and the mass was confirmed as type B1 thymoma. A microscopic examination showed the tumor to contain spindle shaped cells with a lymphocyte rich component (Figure 3). The postoperative recovery was uncomplicated but with impaired

Correspondence: Cheng-de Liao, The Third Affiliated Hospital of Kunming Medical University, 519 Kunzhou road, Kunming, Yunnan, China.
Tel.: +8618988297155.
E-mail: chengdeliao@qq.com

Key words: Thymoma; recurrence; retroperitoneal space.

Acknowledgements: all collaborators who contributed to this manuscript were included as authors of the paper.

Consent: written informed consent was obtained from the patient for publication of this Case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

Conflict of interest: the authors declare that they have no conflict of interest.

Contributions: JY, manuscript drafting and major substantive contribution; C-dL, manuscript revising for intellectual content and final approval; Q-qL, Y-yD, manuscript drafting and revising. All authors read and gave final approval for the version to be published.

Received for publication: 6 January 2015.
Revision received: 10 February 2015.
Accepted for publication: 11 March 2015.

This work is licensed under a Creative Commons Attribution NonCommercial 3.0 License (CC BY-NC 3.0).

©Copyright J. Yang et al., 2015
Licensee PAGEPress, Italy
Clinics and Practice 2015; 5:746
doi:10.4081/cp.2015.746

wound healing, and the patient was discharged on the twentieth postoperative day. There was no indication for adjuvant chemotherapy or radiotherapy.

Discussion

The thymus is a lymphoepithelial organ that is derived embryologically from the third and fourth pharyngeal pouches, which descend to the anterior mediastinum in the sixth week of human gestation.³ Thymomas are an uncommon heterogeneous group of anterior mediastinal tumors that are generally considered indolent. In this paper, we presented the case of a distant recurrence of an invasive thymoma after resection ten years later at an unusual location.

Thymomas occur in all ages, but there is a broad peak between 35 to 70 years of age. The gender distribution of thymoma is approxi-

mately equal, although it is slightly more common in women in older age groups.⁴ Patients with mediastinal thymomas are often clinically asymptomatic (50%-60%) or present as local symptoms (30% to 40%) or associated systemic parathymic disease syndromes (30% to 50%).³ Local symptoms, vague chest pain, dyspnea, and cough are the common complaints of thymomas. MG is the most common systemic

paraneoplastic syndromes. According to the latest classification of histologic criteria for thymic epithelial tumors by the World Health Organization (WHO) Consensus Committee, published in 2004, thymic epithelial tumors are classified into two major categories: five types of thymomas (types A, AB, B1, B2, and B3) and thymic carcinomas.⁵

Recurrences of thymoma occur often locally.

Lymphogenous and hematogenous metastases are uncommon. Previous literature reported very few cases of retroperitoneal invasive thymoma recurrence and lesions were transdiaphragmatic, but in our case the mass did not cross diaphragm, only invaded diaphragm. Three potential routes for the transdiaphragmatic spread of invasive thymoma have been described, namely: i) through the retrocrural space; ii) through the openings in the antero-medial diaphragmatic origin; and iii) direct invasion of muscular diaphragm and spread into the peritoneal/extraperitoneal space.⁶ A few cases of transdiaphragmatic retroperitoneal metastasis have been reported in the literature before.⁷

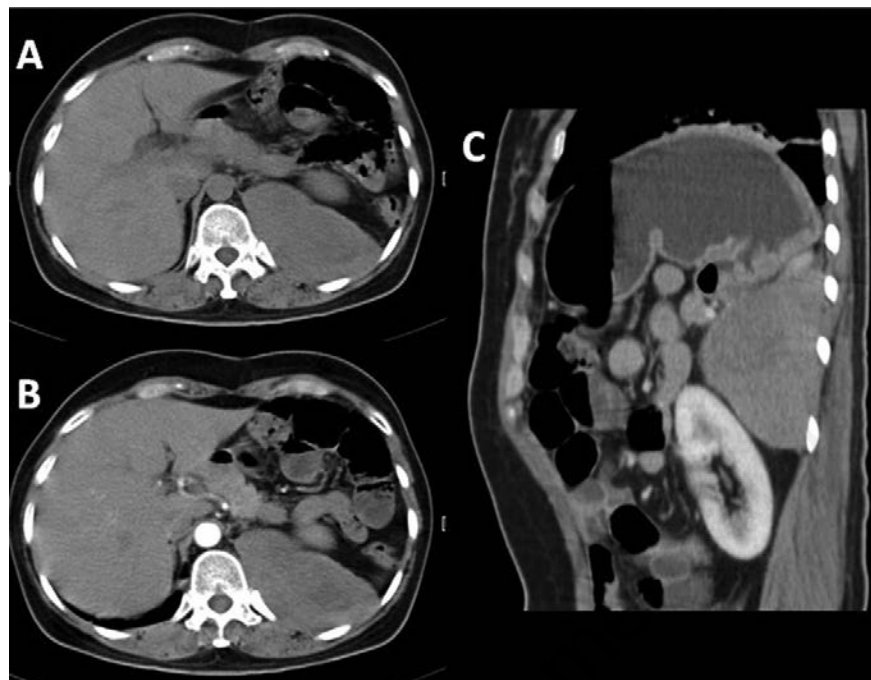


Figure 1. A) Axial unenhanced computed tomography (CT) image shows a homogeneous tumor in the left retroperitoneal space. B) Contrast-enhanced CT image obtained during the arterial phase shows the mass the tumor mild enhancing. C) Sagittal reformat image obtained during the parenchymal phase shows the mass between stomach and kidney enhancing moderately.



Figure 2. Coronal reformat image obtained during the parenchymal phase shows the mass adhering neighboring diaphragm (arrow).

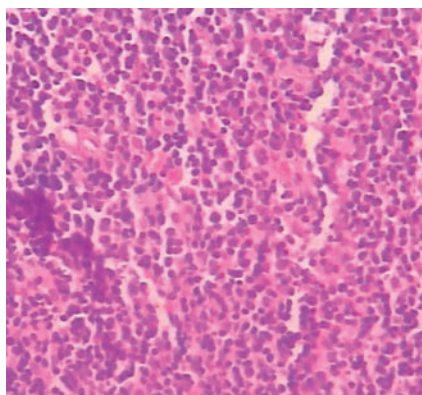


Figure 3. Histopathological examination (hematoxylin and eosin, ×20) revealed abundant lymphocytes and spindle shaped cells.

Conclusions

In the patient, the retroperitoneal mass was suspected not to be a recurrence of the prior thymoma because of its supposed localization and without a local recurrence in the anterior mediastinum post surgery ten years later. But, the surgery pathology showed B1 thymoma.

We concluded that the retroperitoneal mass was an unusual local recurrence after thymectomy. The patients who had under invasive thymectomy should be evaluated carefully when finding retroperitoneal mass during follow-up.

References

1. Duwe BV, Sterman DH, Musani AI. Tumors of the mediastinum. *Chest* 2005;128:2893-909.
2. Detterbeck FC, Zeeshan A. Thymoma: current diagnosis and treatment. *Chin Med J (Engl)* 2013;126:2186-91.
3. Wu TH, Jin JS, Huang TW, et al. Ectopic cervical thymoma in a patient with myasthenia gravis. *J Cardiothorac Surg* 2011; 6:89.
4. Detterbeck FC. Evaluation and treatment of stage I and II thymoma. *J Thorac Oncol* 2010;5:S318-22.
5. Tsukada J, Hasegawa I, Sato H, et al. Ectopic cervical thymoma located in the carotid triangle. *Jpn J Radiol* 2013;31:138-42.
6. Debnath J, Chawla N, Talwar R, et al. Pleural and transdiaphragmatic retroperitoneal metastasis developing two and half years after resection of invasive thymoma. *Singapore Med J* 2008;49:e64-7.
7. van Geffen WH, Sietsma J, Roelofs PM, Hiltermann TJ. A malignant retroperitoneal mass-a rare presentation of recurrent thymoma. *BMJ Case Rep* 2011;pii: bcr0920114737.