# A rare case of incidental retroperitoneal seminoma diagnosed by endoscopic ultrasound-guided fine-needle aspiration

**Nirav Thosani[1,2], Keshia Ferguson[3], Jamie Buryanek[4], Donald Lesslie[5], Matthew P. Spinn[1]**
Departments of [1]Gatroenterology, Hepatology and Nutrition, [3]Internal Medicine, [4]Pathology, [5]Surgery, The University of Texas Medical School at Houston, Texas, [2]Gastroenterology and Hepatology, Stanford University, Stanford, CA 94305, USA

A 55-year-old Caucasian male patient presented after a fall from his bicycle. In addition to fractured ribs and left pneumothorax, he was found to have incidental 5.1 cm × 5.3 cm × 7.6 cm homogenous, well-circumscribed retroperitoneal mass [Figure 1a], on cross-sectional imaging studies. On endoscopic ultrasound (EUS) mass was hypoechoic, heterogenous, abutting but not involving the wall of the second duodenum with clear demarcation between the mass and the head of the pancreas [Figure 1b and c]. EUS guided fine-needle aspiration (EUS-FNA) showed large tumor cells with prominent nucleoid and some binucleated forms [Figure 2a]. The immunohistochemistry identified positive CD117 and OCT-3/4 expression in the tumor cell nuclei suggesting a metastatic germ cell tumor [Figure 2b and c]. Testicular ultrasound showed 2.2 cm × 1.2 cm × 1.6 cm hypoechoic mass in right testis and tumor markers revealed alpha-fetoprotein of 1.7, lactate dehydrogenase of 341, normal beta-human chorionic gonadotropin. He was diagnosed with seminoma with retroperitoneal metastasis and was treated with four cycles of chemotherapy with etoposide and cisplatin with excellent response and subsequently underwent orchiectomy.

| Access this article online | |
|---|---|
| Quick Response Code: | Website: www.eusjournal.com |
| | DOI: 10.4103/2303-9027.127129 |

The majority of retroperitoneal germ cell tumors are metastases from gonadal germ cell tumors.[1] Accurate diagnosis of these tumors is critical as the current therapy can be highly curative. EUS can be utilized for the precise location of a retroperitoneal mass both adjacent to the gastrointestinal tract and/or involving

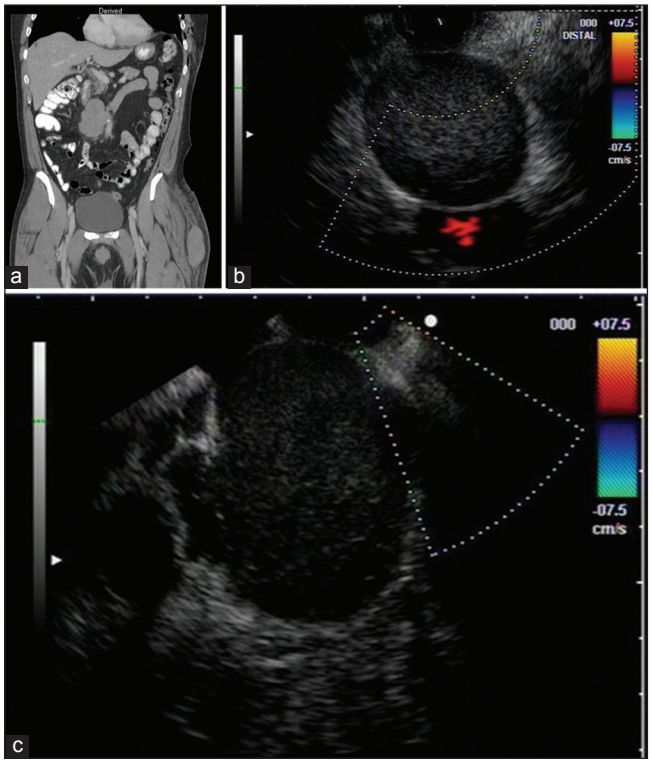


**Figure 1.** (a) Contrast enhanced computed tomography image showing well-circumscribed retroperitoneal mass; (b and c) radial and linear echoendoscopic image showing hypoechoic, heterogenous mass, abutting the wall of the second duodenum

**Address for correspondence**
Dr. Nirav Thosani, E-mail: nthosani@stanford.edu
**Received:** 2013-09-13; **Accepted:** 2013-10-22

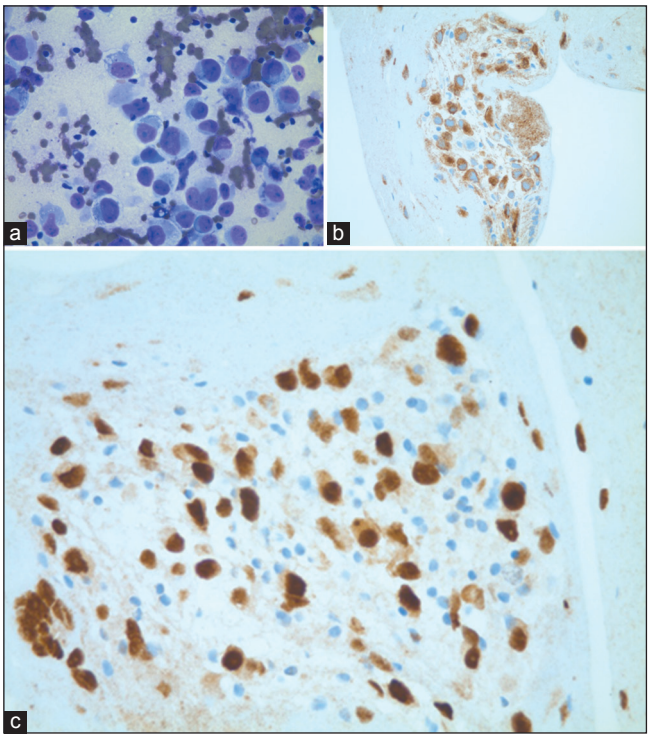


**Figure 2.** (a) Diff-quick stain showing large tumor cells with prominent nucleoid and some binucleated forms; (b) positive immunohistochemistry CD117 staining; (c) positive OCT-3/4 expression in the tumor cell nuclei suggesting a metastatic germ cell tumor

surrounding organs.[2] EUS-FNA is a minimally invasive procedure that allows obtaining sufficient tissue for immunostaining and reaching an accurate diagnosis.[3] Our patient was referred to us by institutional surgeon and EUS-FNA completely changed the management of this patient. Similarly, Erickson and Tretjak reported that EUS-FNA completely changed management of 16/18 (90%) of patients with retroperitoneal lesions.[2] We recommend that EUS-FNA should be included in the diagnostic algorithm of the retroperitoneal tumors.

## REFERENCES

1. Shinagare AB, Jagannathan JP, Ramaiya NH, *et al*. Adult extragonadal germ cell tumors. *AJR Am J Roentgenol* 2010;195:W274-80.
2. Erickson RA, Tretjak Z. Clinical utility of endoscopic ultrasound and endscopic ultrasound-guided fine needle aspiration in retroperitoneal neoplasms. *Am J Gastroenterol* 2000;95:1188-94.
3. Womeldorph CM, Zalupski MM, Knoepp SM, *et al*. Retroperitoneal germ cell tumor diagnosed by endoscopic ultrasound-guided fine needle aspiration. *World J Gastrointest* Oncol 2010;2:443-5.

**How to cite this article:** Thosani N, Ferguson K, Buryanek J, Lesslie D, Spinn MP. A rare case of incidental retroperitoneal seminoma diagnosed by endoscopic ultrasound-guided fine needle aspiration. *Endosc Ultrasound* 2014;3:66-7.

**Source of Support:** Nil. **Conflict of Interest:** None declared.