

A classical case of testicular seminoma in a young patient with pulmonary, hepatic and retroperitoneal metastases

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Section: Uroradiology & genital male imaging

Area of Interest: Genital / Reproductive system male
Retroperitoneum

Procedure: Contrast agent-intravenous

Procedure: Staging

Imaging Technique: CT

Imaging Technique: Digital radiography

Imaging Technique: Ultrasound

Special Focus: Cancer Case Type: Clinical Cases

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Patient: 17 years, male

Clinical History:

A 17-year-old male presented to the urology outpatient department with a history of painless enlargement of the left testis. No history of associated fever or preceding trauma was noted. Except for an on-and-off history of chronic cough and chest pain, his past medical history was unremarkable.

Imaging Findings:

Based on the clinical history, ultrasonogram of the inguinoscrotal region and plain chest X-ray was advised. Ultrasonographic evaluation of the scrotum revealed a hypoechoic lesion in the left testis with minimal vascularity (Fig 1). Right testis showed presence of multiple echogenic foci within it suggestive of testicular microlithiasis. Chest x-ray showed well defined round homogeneously radiodense lesion in the right lower zone. Similar well defined radiodense lesion was also noted in the retrocardiac region (Fig 2).

Further evaluation with contrast enhanced computed tomography of chest and abdomen was performed. The study showed a large heterogeneously enhancing lesion in the left testis (Fig 3). Heterogeneously enhancing lymph nodes were noted in the left para-aortic region (Fig 4). Ill defined peripherally enhancing lesions were noted in segment VI and IVA of liver (Fig 5). Heterogeneously enhancing well defined round to elliptical shaped lesions were noted in the posterior basal segment of lower lobes of bilateral lungs (Fig 6, Fig 7).

Discussion:

Testicular malignancy is the most common non-hematologic malignancy seen in men between 15-49 years of age [1]. Testicular malignancies have both genetic and environmental factors associated with them. Epidemiological factors associated with development of testicular tumours include testicular dysgenesis syndrome, first-grade relatives with testicular cancer and presence of a contralateral tumour or testicular intraepithelial neoplasia. In accordance to the 2016 WHO pathological classification three major subcategories have been described; 1) Germ cell tumours 2) sex cord/gonadal stromal tumours 3) miscellaneous non-specific stromal tumours [2]. Currently, ultrasound serves to confirm the presence of a testicular mass and to explore the contralateral testis. US sensitivity is almost 100% and it has an important role in determining whether a mass is intra- or extratesticular [3]. The

Take-Home Message / Teaching Points

This case showcases the importance of general understanding of the common sites of metastases in testicular malignancy. This helps in promoting the search for metastases in common metastatic sites and using the correct imaging study which not only improves detection of metastatic organ involvement but also facilitates differentiation between benign and malignant pathology. Presence of metastases is a key component in the staging of the disease which dictates further management. The retroperitoneal lymph nodes are the most common site for metastases in testicular cancer. Hematogenous spread is also seen; predominantly in the lungs. Our patient as described showed involvement of the retroperitoneal lymph node, lungs and liver; the common metastatic sites usually seen in testicular cancer. Thus it is important to always consider the possibility of metastasis in proven or suspected testicular cancer and further investigate its presence judiciously.

Differential Diagnosis List: Left testicular seminoma with retroperitoneal lymphadenopathy, pulmonary and hepatic metastases, Disseminated metastasis, Disseminated tuberculosis with tuberculomas

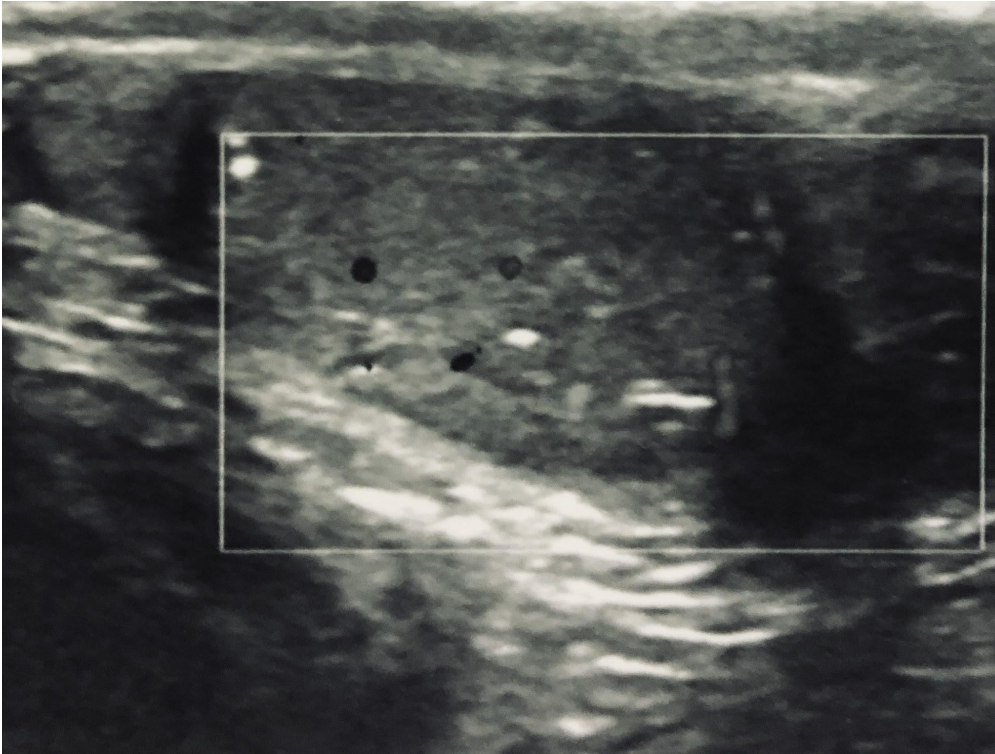
Final Diagnosis: Left testicular seminoma with retroperitoneal lymphadenopathy, pulmonary and hepatic metastases

References:

- Kreydin EI, Barrisford GW, Feldman AS, Preston MA. Testicular cancer: what the radiologist needs to know. *American Journal of Roentgenology*. 2013 Jun;200(6):1215-25. PMID: 23701056
- Idrees MT, Ulbright TM, Oliva E, et al. The World Health Organization 2016 classification of testicular non-germ cell tumours: a review and update from the International Society of Urological Pathology Testis Consultation Panel. *Histopathology*. 2017;70(4):513–521. doi:10.1111/his.13115 PMID: 27801954
- Kim, Woojin & Rosen, Mark & Langer, Jill & Banner, Marc & Siegelman, Evan & Ramchandani, Parvati. (2007). US-MR Imaging Correlation in Pathologic Conditions of the Scrotum. *Radiographics* : a review publication of the Radiological Society of North America, Inc. 27. 1239-53. 10.1148/rg.275065172.
- Hale GR, Teplitsky S, Truong H, Gold SA, Bloom JB, Agarwal PK. Lymph node imaging in testicular cancer. *Translational andrology and urology*. 2018 Oct;7(5):864.
- Lin D, Tan AJ, Singh-Rai R. A literature review and case report of metastatic pure choriocarcinoma. *Case reports in oncological medicine*. 2015;2015.
- Laguna MP, Klepp O, Horwich A, Algaba F, Bokemeyer C, Pizzocaro G, Cohn-Cedemark G, Albers P. Guidelines on testicular cancer. *European Association of urology*. 2004 Mar.

Figure 1

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Description: Ultrasonogram of left testis showing testicular microlithiasis and ill defined hypoechoic lesion with minimal internal vascularity. **Origin:** © Grande International Hospital, Kathmandu, Nepal.

Figure 2

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Description: Plain X-ray Chest PA view showing well defined homogeneously radiodense lesion in the right lower zone and in the retrocardiac region. **Origin:** © Grande International Hospital, Kathmandu, Nepal.

Figure 3

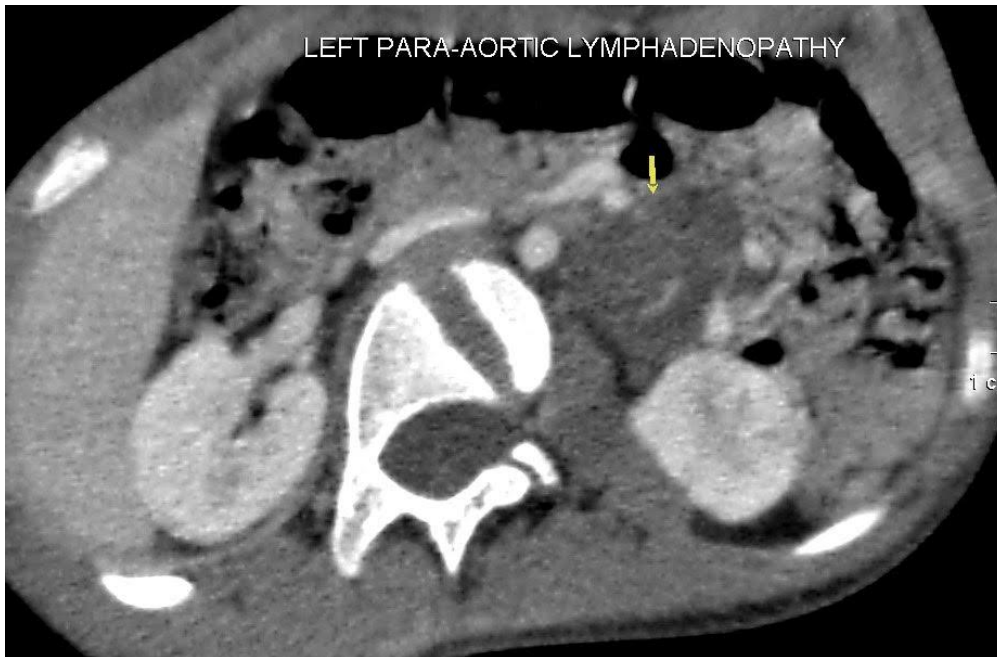
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Description: Contrast enhanced CT showing ill defined heterogenesouly enhancing lesion in the left scrotal sac. **Origin:** © Grande International Hospital, Kathmandu, Nepal.

Figure 4

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Description: Contrast enhanced CT abdomen showing heterogeneously enhancing left para-aortic lymphadenopathy. **Origin:** © Grande International Hospital, Kathmandu, Nepal.

Figure 5

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Description: Contrast enhanced CT abdomen showing ill defined heterogeneously enhancing lesion in right lobe of liver suggestive of metastasis. **Origin:** © Grande International Hospital, Kathmandu, Nepal.

Figure 6

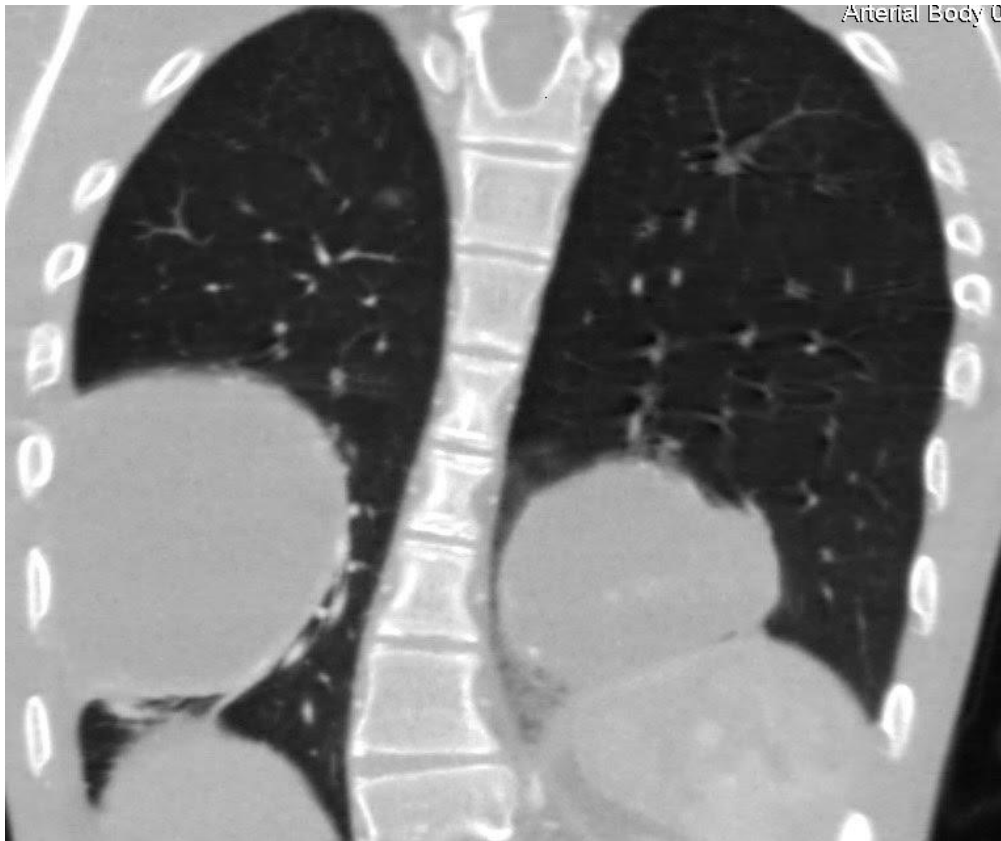
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Description: Contrast enhanced CT chest soft tissue window axial view showing relatively well defined enhancing lesions in bilateral lungs suggestive of pulmonary metastasis. **Origin:** © Grande International Hospital, Kathmandu, Nepal.

Figure 7

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Description: Contrast enhanced CT chest lung window coronal view showing relatively well defined enhancing lesions in bilateral lungs suggestive of pulmonary metastasis. **Origin:** © Grande International Hospital, Kathmandu, Nepal.