



Teenager with shortness of breath and hypoxia

In addition to the signs and symptoms that brought this teen to our ED, there was one important detail that he failed to initially mention.

A **19-YEAR-OLD MALE** complaining of shortness of breath was transferred from our facility's urgent care unit to our emergency department. He had a 2-week history of hemoptysis and vomiting, and over the previous week, he had developed mild hematemesis. His other symptoms included left thigh, flank, and upper quadrant pain; left chest pain exacerbated by exertion, light-headedness, and palpitations. He said that over the past 8 months, he'd been tired and lost some weight.

His blood pressure was 138/77 mm Hg, pulse was 142 beats per min, respiratory rate was 22 breaths per min, and oxygen saturation was 93% on room air. The physical exam revealed normal breath sounds and a diffusely tender abdomen.

We ordered a chest X-ray (**FIGURE**).

- WHAT IS YOUR DIAGNOSIS?
- HOW WOULD YOU TREAT THIS PATIENT?

FIGURE

Multiple bilateral nodules throughout all lung fields



IMAGE COURTESY OF: COREY HARRISON, MD

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The authors reported no potential conflict of interest relevant to this article.



An examination of the patient's scrotum revealed an 11-cm mass encompassing the patient's left testicle.

Diagnosis: Metastatic testicular cancer

The chest x-ray showed multiple bilateral discrete nodules throughout all of the lung fields. These findings, along with the age of the patient, prompted the radiologist to suspect metastatic testicular cancer. An examination of the patient's scrotum revealed an 11-cm mass encompassing the patient's left testicle. When asked about the mass, the patient acknowledged that it had been there for about 8 months.

A rare cancer seen in younger men

Although relatively uncommon, testicular cancer accounts for 1% to 2% of all tumors in men.¹ If caught it is highly treatable.

Testicular cancer is classified into germ cell tumors (which our patient had) and sex cord-stromal tumors. Germ cell tumors are the most common malignancy in men ages 15 to 44 years, and have a 95% cure rate when identified early and promptly treated.^{2,3} Sex cord-stromal tumors are more common in pediatric patients and are more often benign.²

■ **Diagnosis usually is made clinically and pathologically at resection.** Left untreated, testicular cancer spreads via the lymphatic system to the retroperitoneal lymph nodes and through the bloodstream to the lungs (predominantly),⁴ as well as to bone, the liver, and the brain. Metastatic testicular cancer to the lungs, liver, and retroperitoneum occurs in advanced disease and has a poor prognosis.^{4,5}

Differential diagnosis includes pneumonia, septic emboli

The differential diagnosis includes atypical pneumonia, septic emboli (ie, endocarditis or Lemierre's syndrome), or sarcoidosis. Patients with atypical pneumonia often present with a

cough, fever, and malaise. Patients with septic emboli will have an x-ray that looks similar to that of our patient. Their signs and symptoms will include malaise, shortness of breath, hypoxia, tachycardia, and tachypnea. Risk factors and physical exam findings might include a history of intravenous drug abuse (endocarditis) or deep tissue neck infection (Lemierre's syndrome). Sarcoidosis can be a challenging diagnosis without further study.

Successful treatment hinges on early detection

Treatment for testicular cancer often is successful if the condition is localized.

The choice of treatment depends on tumor type and stage. Options include orchiectomy, retroperitoneal lymph node dissection, chemotherapy, and radiation.²⁻⁵ After being diagnosed with testicular cancer 95% of patients live for 5 or more years.⁶ For localized testicular cancer, the 5-year survival rate is 99%.⁶

■ **An eye toward prevention.** The US Preventive Services Task Force recommends against screening with clinical examination or testicular self examination⁷; however, some clinicians support regular screening and self examinations.

When silence is deadly

Although physicians expect that patients will disclose obvious physical manifestations of disease, we know that this is not always the case. Patients often have barriers to care, including their own reluctance to share certain types of information with a provider.

■ **Our patient.** After we diagnosed metastatic testicular cancer in our patient, he was transferred to the medical intensive care unit. His overall clinical status declined and he died 14 days later.

JFP

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