Your Diagnosis, Please

Lung Mass in a Teenage Male With Asthma

Gayatri Mirani, MD,* Jonna C. Marret, DO,† Evans Valerie, MD,‡ Richard K. Smith, BA, BS, MT(ASCP),§ Donald L. Greer, PhD,¶ Randall Craver, MD,‖ and Rodolfo Begue, MD**

CASE DESCRIPTION

A 17-year-old male with a history of mild persistent asthma presented with chest pain and shortness of breath upon exertion for several months. The patient was treated with albuterol for presumptive asthma exacerbation. He reported occasional night sweats and a weight loss of about 9 pounds due to decreased appetite and not being able to exercise or weight lift. There was no report of fever, chills, headache, rash, prior pneumonia, recurrent infections or sick contacts. The patient lived in a rural town in central Louisiana and was a high school athlete and an avid football player. The patient had not traveled outside the United States. His major travels included beaches in Galveston, Texas, and Biloxi, Mississippi, over the past several years. He did not have any exposure to pets or other animals.

A tuberculin skin test done a month prior was reported as negative. An outpatient chest radiograph revealed a right middle lobe lung mass and a computed tomography scan with contrast showed a lobulated soft tissue density in the right middle lobe measuring 3.2 cm × 1.1 cm. These findings raised the suspicion for a malignant tumor, and the patient was transferred to our hospital for possible surgical management. On admission, he had a temperature of 36.7°C, pulse of 78 beats per minute, blood pressure of 116/65 mm Hg, respiratory rate of 16 breaths per minute and oxygen saturation of 100% in ambient air. Physical examination was normal with no significant pulmonary findings (no wheezing, no tachypnea and normal breath sounds). Preoperative blood work was within normal limits. The surgical team, concerned about the possibility of a malignant tumor, decided to proceed with resection. In the operating room, the mass could not be located via laparoscopic approach so the patient underwent an open thoracotomy. The operation revealed a 4 cm × 2 cm lesion extending from the right middle lobe into the hilum. The mass was completely resected via wedge resection of the right middle lobe. Histopathological examination revealed necrotizing caseating granulomatous inflammation with marked eosinophilia, bronchiectasis, eosinophilic vasculitis and a potential infectious agent.

For denouement see p. 715.