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DISSEMINATED KAPOSI'S SARCOMA—A MISSED DIAGNOSIS

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□ **Abstract—Background: Kaposi's sarcoma is significantly prevalent among men infected with the human immunodeficiency virus, accounting for >90% of all cases. The early presentation of KS typically involves mucocutaneous lesions and lymphadenopathy, and more advanced disease can affect the lungs and other organs. Objective: Our aim was to remind emergency physicians to remain suspicious of clinical presentations despite previous diagnoses or patient statements, particularly in patients with risk factors. Case Report: We present a case of a young man having skin lesions and respiratory problems remaining undiagnosed, despite, and possibly due to, multiple recent physician contacts. Conclusions: Respiratory illnesses are common presentations in the emergency department and are typically benign and attributed to viral causes. However, the emergency physician must always be on the look out for more dangerous causes of respiratory complaints, especially in patients with risk factors and in those found to be refractory to recent treatment for more common illnesses.** © **2014 Elsevier Inc.**

□ **Keywords—missed diagnosis; disseminated Kaposi's; HIV-related infection; pulmonary Kaposi's; respiratory infection**

INTRODUCTION

Although uncommon in the immunocompetent population, Kaposi's sarcoma (KS) is significantly more prevalent among homosexual and bisexual men infected with the human immunodeficiency virus (HIV), accounting for >90% of all cases (1). KS is an angioproliferative disease resulting in low-grade tumors of the cells lining blood and lymphatic vessels and is associated with the human herpes virus type 8. The growth of these tumors is the result of the extravasation of red blood cells and inflammatory cells with activation of the endothelium and angiogenesis (2). The early presentation of KS typically involves mucocutaneous lesions and lymphadenopathy, and more advanced disease can affect the respiratory tract, lungs, intestines, and other organs.

CASE REPORT

A 28-year-old previously healthy man presented in early February 2012 to our emergency department (ED) with a chief complaint of cough and fever. He stated that he had been to two other EDs for the same problem and was not getting better. He reported having a 2½-month history of cough (recently becoming productive with blood-streaked whitish sputum) and significant weight loss. In the last 2 weeks leading up to the encounter at our ED, he began experiencing fevers, chills, body aches, rhinorrhea, wheezing and, finally, watery diarrhea. His review of systems was positive for night sweats and the development of a raised, reddish-purple papular rash on the face, chest, and extremities that preceded all current symptoms. The patient denied having abdominal pain, vomiting, headache, or visual changes. The patient had been in a 2-year monogamous homosexual relationship and

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participated in anal receptive intercourse without protection. He stated that both he and his partner were HIV negative, and that his partner had a negative HIV test within the last month. The patient denied intravenous drug use, recent travel, incarceration, blood transfusions, change in housing status, and recent sick contacts.

Physical examination demonstrated a well-nourished African-American man with normal mood and affect and alert and oriented to person, time, and place with no signs of neurologic deficit. His skin, although warm and dry, had several tattoos and multiple purple, well-circumscribed, papular lesions about his face, chest, back and extremities, which were not tender to palpation. Lung fields demonstrated mild rales bilaterally with slight expiratory wheezing. The remainder of the examination was unremarkable. The patient's vital signs were: temperature 38.1°C (100.6°F); blood pressure 151/65 mm Hg; heart rate 140 beats/min; respirations 21 breaths/min with 100% oxygen saturation on room air.

The patient initially sought treatment during the preceding Thanksgiving holidays for the rash that had developed on his neck, arms, and torso (Figures 1 and 2). The appearance of the rash coincided with his working around Christmas trees and, as such, was initially believed to be an allergic reaction. Approximately 1 week later, the patient began to experience a persistent cough and weight loss.

During the 2 months after the onset of symptoms, the patient sought treatment on several occasions. He had been evaluated by an allergy specialist, an urgent care center, and had three visits to two different EDs, with the last ED visit a week before ours. He had been given a variety of diagnoses, ranging from an allergic reaction to bronchitis and pneumonia. Treatment had included nebulizers, inhalers, antihistamines, multiple courses of antibiotics, most recently levofloxacin, and two rounds of steroids. With the exception of a reduction in the recurrence of fever, the patient reported no relief of symptoms.

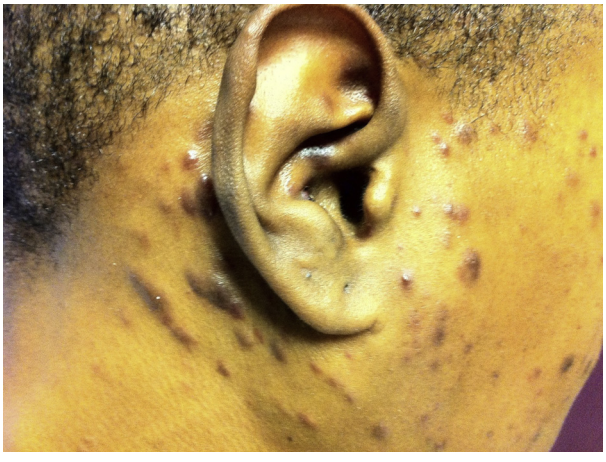

Figure 1. Skin lesions located on the face and neck which were part of the original complaint.

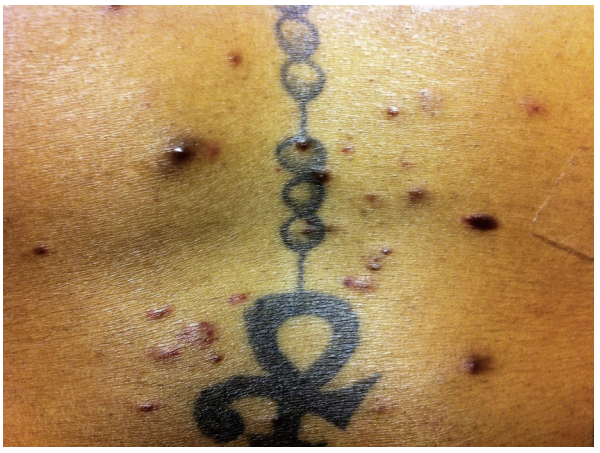

Figure 2. The skin lesions spread to the chest (shown here) as well as the abdomen, back and upper extremities.

His initial laboratory evaluation included a complete blood count, complete metabolic panel, blood cultures, urinalysis, arterial blood gas, erythrocyte sedimentation rate, C-reactive protein, lactate dehydrogenase, and a rapid influenza swab. The initial laboratory results are listed in Table 1.

Because of the hyponatremia and prominent gastrointestinal symptoms, a Legionella urine antigen test was added, which was negative. The chest x-ray study demonstrated nonspecific interstitial markings and peribronchial thickening without consolidation (Figure 3). Computed tomography angiography (CTA) of the chest was also performed in the ED (Figure 4), and demonstrated extensive bilateral reticulonodular opacities with scattered areas of "ground-glass," bronchial wall and peribronchial vascular thickening, increased anterior mediastinal soft tissue, bilateral hilar and axillary lymphadenopathy, and thickening to the major fissures bilaterally.

Given the clinical picture and history elicited at presentation, our initial differential diagnosis included tuberculosis, resistant and atypical pneumonias, recurrent viral illness, lymphomas, Kaposi's sarcoma, interstitial lung disease, and fungal infection, specifically *Pneumocystis jirovecii* pneumonia (PCP).

Empiric treatment was initiated with intravenous ceftriaxone and azithromycin, as well as trimethoprim/sulfamethoxazole for suspected PCP, and the patient was admitted to the Internal Medicine service. On hospital day 2, the patient was shown to be HIV positive with a CD4 count of 149. Bronchoalveolar lavage proved negative for PCP and other fungal infections; however, biopsy of the skin lesions and inguinal lymph nodes returned a diagnosis of cutaneous and disseminated pulmonary KS. He had a month-long hospital stay, which eventually