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Bilateral tonsillar and esophageal Kaposi sarcoma in an HIV-negative patient

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Abstract

Tonsillar involvement in Kaposi sarcoma is extremely rare, as only a few such cases have been reported; all but 1 of these previously reported cases occurred in patients with human immunodeficiency virus (HIV) infection. We describe what to the best of our knowledge is the first reported case of concurrent bilateral tonsillar and esophageal Kaposi sarcoma in an HIV-negative patient. A 68-year-old man presented with sore throat and dysphagia. Clinical examination revealed the presence of bilateral and asymmetrical tonsillar masses, as well as generalized lymphadenopathy in the cervical chain. The masses were resected, and findings on histopathologic analysis were consistent with Kaposi sarcoma. In addition, human herpesvirus 8 was demonstrated on a tonsil specimen by polymerase chain reaction, and microinvasive squamous cell carcinoma was also detected. Later, another Kaposi sarcoma lesion was detected in the lower third of the esophagus. We recommend that clinicians not discount the possibility of oral classic Kaposi sarcoma in the workup of an immunocompetent patient with oral vascular lesions.

Introduction

Kaposi sarcoma is a well-known intermediate type of vascular tumor that primarily affects the skin. Dissemination to lymphoid tissues and viscera is sometimes seen during disease progression.

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Four clinical and epidemiologic forms of Kaposi sarcoma have been described: *endemic, epidemic, post-transplant,* and *classic;* the epidemic form is caused by human immunodeficiency virus (HIV) infection. In all four forms, three major cell types are seen: *endothelial cells, spindle cells,* and *infiltrating inflammatory cells.* In late-stage lesions, spindle cells are prominent; they form well-defined fasciculi.[1,2]

Among the four forms of Kaposi sarcoma, differences exist in not only the disease course and prognosis, but also in terms of the sites that are frequently involved. The endemic form is often seen in the lymph nodes and internal organs. Patients with the epidemic or post-transplant form often develop mucosal and internal organ lesions that precede the appearance of dermal lesions. The lesions of classic Kaposi sarcoma exhibit a general distribution, often involving the skin.

Oral involvement in Kaposi sarcoma is rare, but it may be the initial presenting feature of this disease. To date, only a few cases[3-6] of primary Kaposi sarcoma of the tonsil have been reported, all but 1 of which[6] occurred in HIV-positive patients. We describe a case of concurrent bilateral tonsillar and esophageal Kaposi sarcoma in an HIV-negative patient.

Case report

An otherwise healthy 68-year-old man from Antalya, Turkey, on the Mediterranean Sea presented to a government hospital with sore throat and dysphagia. Physical examination revealed the presence of a right tonsillar mass. An incisional biopsy of the mass was misdiagnosed as a capillary hemangioma, and the patient was released without treatment.

Three months later, the patient presented to our hospital with persistent sore throat and dysphagia. Physical examination revealed bilateral and asym-



Figure 1. Axial CT shows the bilateral solid tonsillar masses (arrows).

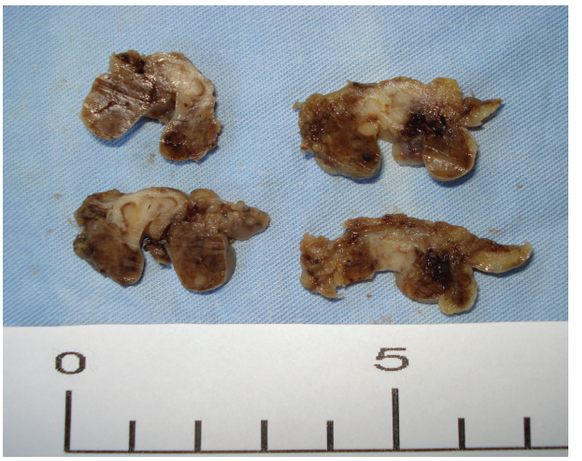


Figure 2. Cut surfaces of the right tonsil specimen feature brownish spongy areas with gray-white solid nodules and evidence of hemorrhage.

metrical masses in the tonsillar area. On computed tomography (CT), the solid masses measured 1.5 cm on the left 3.2 cm on the right (figure 1). Of note, generalized lymphadenopathy (<1.5 cm) was observed in the cervical chain. Given the bilaterality of the masses, the generalized lymphadenopathy, and the imaging characteristics, clinical suspicion turned to a lymphoma. No similar lesions in any other region of the body were detected. Because the two masses obstructed the aerodigestive tract, a total resection of both was performed.

On gross examination, both of the resected specimens were covered with mucosa. The cut surfaces contained brownish spongy areas with gray-white solid nodules and evidence of hemorrhage (figure 2). On microscopy, the tumor involving the mucosa featured spindle cells and epithelioid cells with mild pleomorphism arranged in a vague fascicular pattern that formed thin vascular spaces (figure 3, A). Extensive extravasation of red blood cells into the surrounding tumor was seen. The spindle cells were immunoreactive for CD31 and CD34 (figure 3, B) and negative for factor VIII. All these findings were consistent with Kaposi sarcoma. In addition, human herpesvirus 8 (HHV-8) was detected in tonsillar tissue by a nested polymerase chain reaction (PCR) in the manner described by Pan et al.[7] Finally, a microinvasive squamous cell carcinoma was detected under an area of ulcerated mucosa.

Following the diagnosis of Kaposi sarcoma, the patient was investigated for the possibility of HIV infection. He had no history of a sexually transmitted disease, and an enzyme-linked immunosorbent assay (ELISA) found that he was HIV-negative; a second ELISA confirmed the results of the first. Moreover, no associated immunosuppression was detected. Finally, findings on routine blood work and renal and liver function tests were within normal limits. During the whole-body examination, however, esophageal endoscopy detected a 7-mm mammillary lesion in the lower third of the esophagus. The lesion was removed and identified as a Kaposi sarcoma.

The patient was started on radiotherapy and chemotherapy with bleomycin, doxorubicin, and vincristine. At 2.5 years of follow-up, he was alive and disease-free.

Discussion

Kaposi sarcoma was first described by Moritz Kaposi in 1872 as a cutaneous neoplasm that primarily affects men of Jewish and Mediterranean descent.[8] The increase in the number of cases of acquired immune deficiency syndrome (AIDS) in the 1980s led to a remarkable increase in the incidence of Kaposi sarcoma. According to reports, between 40 and 67% of Kaposi sarcoma lesions occur in the head and neck, mainly on the skin and in the mucosa of the aerodigestive tract.[9]

Classic Kaposi sarcoma of the oral cavity may manifest as solitary or multiple lesions whose dimensions range from a few millimeters to centimeters; these lesions can develop into nodules or tumors. The most common locations of oral classic Kaposi sarcoma are the hard palate and gingiva; it can also invade the bones. Signs and symptoms can include pain, bleeding, and functional defects caused by the tumor. Primary oral classic Kaposi sarcoma is uncommon in immunocompetent

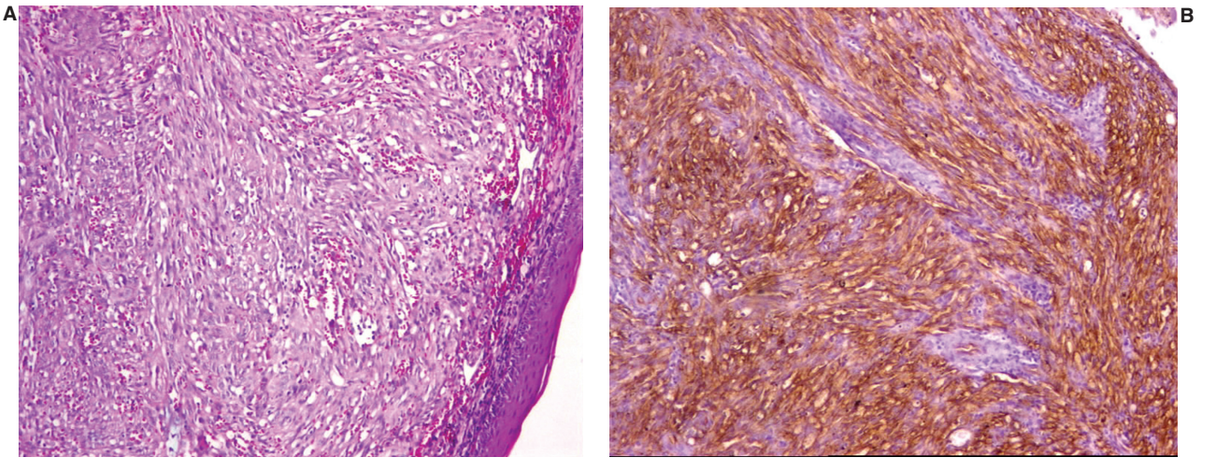


Figure 3. ***A:*** *H&E staining shows sheets of atypical spindle cells and epithelioid cells that form slit-like vascular spaces, which contain extravasated erythrocytes (original magnification ×100).* ***B:*** *CD34 immunoreactivity is seen in the neoplastic spindle cells (original magnification ×100).*

patients; when it does occur, it is often clinically misdiagnosed. Our patient was initially misdiagnosed as having a capillary hemangioma on the basis of a biopsy specimen, and later he was erroneously suspected of having a lymphoma on clinical grounds. While he had histopathologic evidence of a synchronous esophageal lesion, he had no skin lesion suspicious for Kaposi sarcoma.

Most patients with Kaposi sarcoma have multicentric or metastatic disease. We were able to find only a few previously published reports of Kaposi sarcoma with tonsillar involvement.[3-6] It is noteworthy that there have been no case reports of concurrent bilateral tonsillar and esophageal Kaposi sarcoma in patients without documented immunocompromise. HHV-8 is believed to play an important role in the development of all four variants of Kaposi sarcoma, although the mechanism is not yet understood.[10] In our case, the presence of HHV-8 was detected by PCR. However, the presence of HIV was excluded by microbiologic studies, and no immunosuppression was detected.

Kaposi sarcoma is believed to be a systemic neoplasm of vascular endothelium. Gastrointestinal tract involvement has been reported in approximately 40% of affected patients at the time of diagnosis and in as many as 80% of affected patients at autopsy.[11]

A definitive diagnosis is made by biopsy. The differential diagnosis of oral Kaposi sarcoma includes bacillary angiomatosis, pyogenic granuloma, lymphoma, oral hemangioma, and other benign vascular proliferations. However, these entities are easily ruled out on histologic examination. The most troublesome entities in the differential diagnosis are kaposiform hemangioendothelioma and angiosarcoma. Microscopically, Kaposi sarcoma appears as sheets of atypical spindle cells that form slit-like vascular spaces, which contain extravasated erythrocytes. The spindle cells typically stain positive for endothelial markers such as CD31, CD34, and vimentin. Mitotic figures are also present, as are intra- and extracellular eosinophilic globules.[1,2] In our case, the histopathologic and immunohistochemical findings were compatible with Kaposi sarcoma.

Several different treatment modalities have been used for classic Kaposi sarcoma. Since there is no known curative therapy, the main focus of treatment is palliation and prevention of disease progression. Surgical excision or electrocauterization and curettage are generally effective for localized lesions. Intralesional chemotherapy is an alternative.[12] Multiple clinical trials have been conducted to evaluate the efficacy of chemotherapeutic agents such as vinblastine, etoposide, vincristine, and bleomycin, and these investigations have found that these agents have achieved relatively good control of lesions in combination with radiotherapy.[13]

In conclusion, we emphasize that awareness of the typical features of Kaposi sarcoma is important for clinicians and pathologists. Also, the possibility of oral Kaposi sarcoma should be kept in mind in patients without AIDS or immunosuppression. In immunocompetent patients, an awareness of oral classic Kaposi sarcoma as a diagnostic possibility is important during the workup of vascular lesions in the oral cavity.

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