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CASE REPORT | STOMACH

Gastric Ulcer as Presentation of HIV-Associated Kaposi Sarcoma and Resolution With HAART Therapy

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ABSTRACT

Kaposi sarcoma (KS) is a neoplasm of endothelium-derived cells that are associated with human herpesvirus 8 infection. In the setting of HIV, extensive disease typically necessitates highly active antiretroviral therapy in conjunction with chemotherapy. We report a patient who presented with gastrointestinal symptoms and was found to have KS presenting only as cratered gastric ulcers. The patient declined chemotherapy and was treated with highly active antiretroviral therapy alone and had complete resolution of KS on endoscopy and imaging up to 3 years later.

INTRODUCTION

Kaposi sarcoma (KS) is a vascular tumor or tumor-like lesion that is associated with human herpesvirus 8 (HHV-8). In the West, KS is most commonly associated with AIDS and extensive disease typically necessitates highly active antiretroviral therapy (HAART) in conjunction with chemotherapy. Although KS usually presents with cutaneous lesions, we report a man who presented with gastrointestinal (GI) symptoms and was found to have gastric KS in the absence of cutaneous lesions as the presenting manifestation of his HIV. He had complete resolution of KS with HAART alone on endoscopy and imaging at a 3-year follow-up.

CASE REPORT

A 44-year-old African American man presented with a 2-week history of abdominal pain, postprandial nausea, and vomiting. He had no significant medical or surgical history, was not on any medications, and denied any pertinent family history. He was in a long-term monogamous relationship with an HIV-positive male partner. The physical examination was unremarkable. He received an upper endoscopy, which revealed 20 nonbleeding cratered gastric ulcers with flat pigmented spots (Forrest IIC) in the gastric body, incisura, antrum, and prepyloric region, the largest of which was 10 mm. Biopsies were obtained, and pathology revealed gastric antral mucosa with spindle cell proliferation and ulceration which were immunoreactive for HHV-8 and negative for DOG-1, consistent with Kaposi sarcoma (Figure 1). Immunohistochemistry also revealed cells reactive for CD34 with weak reactivity for CD117 and no reactivity for S100. A colonoscopy was also obtained and was unremarkable. An HIV test was positive, and he had a CD4 count of 15 cells/μL, consistent with AIDS. A computed tomography of the chest/abdomen/pelvis with intravenous contrast was negative for signs of malignancy. The patient was initiated on HAART therapy and placed on appropriate antibiotic prophylaxis for opportunistic infections. He was evaluated by the hematology and oncology service, which offered treatment with liposomal doxorubicin, which was declined. On follow-up, serial imaging with computed tomography of the chest/abdomen/pelvis over the next 3 years continued to be negative for signs of malignancy. He had several repeat upper endoscopies on HAART therapy, with the most recent endoscopy 3 years after diagnosis revealing sustained complete resolution of all lesions (Figure 2).

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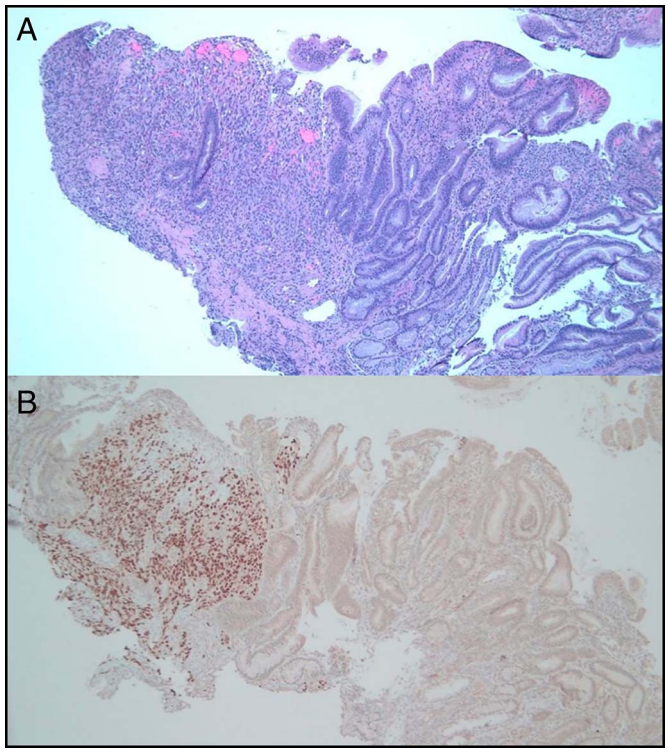

Figure 1. Kaposi sarcoma of the stomach. (A) Spindle cell proliferation in gastric mucosa with intestinal metaplasia, consistent with Kaposi sarcoma (haemotoxylin and eosin stain, 50×). (B) The tumor cells are immunoreactive for HHV-8, which supports the diagnosis of Kaposi sarcoma (nuclear stain with brown chromogen, 50×).

DISCUSSION

KS is a locally aggressive vascular neoplasm that is associated with HHV-8 infection.[1] KS is one of the most common complications of AIDS in industrialized countries. There are 4 clinical variants that have been identified: the classic or the Mediterranean subtype, the endemic or sub-Saharan African subtype, the iatrogenic or post-transplant subtype, and the epidemic or AIDS-related subtype.[1] AIDS-related KS was first recognized in the 1980s with the HIV epidemic and behaved much more aggressively than previously described variants, progressing to visceral involvement, organ dysfunction, and death.[2] In the era of HAART, there has been a significant decrease in the incidence of KS among patients with HIV.[3]

KS typically presents with purplish, red-blue or dark brown macules, plaques, or nodules that may ulcerate. Epidemic KS can have extensive cutaneous and visceral involvement, affecting the GI tract, lungs, bones, and liver, and may be life threatening.[1] In patients with established cutaneous AIDS-related KS, up to half may have visceral involvement and up to 24% of patients may have some form of GI involvement, 55% of which are present in the stomach.[4,5] Patients with GI KS typically also have cutaneous KS (80%), although our patient did not.[5] GI KS can present with bleeding and small bowel obstruction.[6] Three endoscopic phenotypes of GI KS lesions have been described: maculopapular lesions, polypoid lesions, and larger cratered "volcano-like" lesions such as those found in our patient, which are the rarest and are found exclusively in the stomach in ~8% of patients.[5,7] The presence of GI symptoms has not been found to be predictive of gastric KS in patients with HIV without cutaneous KS because up to 80% may be asymptomatic.[5,8,9] Some studies have reported low diagnostic yields with endoscopic biopsy necessitating mucosal resection, but this may be related to the small lesion size, submucosal location, and number of biopsies obtained.[5] A biopsy is essential for diagnosis and reveals spindle cell proliferation forming irregular, cleft-like vascular channels containing red blood cells and hemosiderin-laden macrophages. Although KS stains for vascular markers, immunohistochemistry for HHV-8 is necessary to establish the diagnosis and to distinguish it from other mimickers such as GI stromal tumors, hemangiomas, and spindle cell melanomas.[1]

The treatment of KS depends on the type, extent of disease, and patient symptoms. For AIDS-related KS, HAART is the first line of treatment, and limited disease has been shown to regress with HAART in many cases.[1] Local therapy and surgery play a small role and are rarely used.[10] There are a variety of systemic chemotherapy options available, and indications include painful or ulcerated lesions, visceral disease, extensive cutaneous disease, rapidly progressive disease, or immune reconstitution inflammatory syndrome.[10,11] Pegylated liposomal doxorubicin is the most common first-line agent and has an overall response rate of 76% when used with HAART.[1] Although our patient met indications for systemic chemotherapy because of extensive visceral disease, he declined doxorubicin

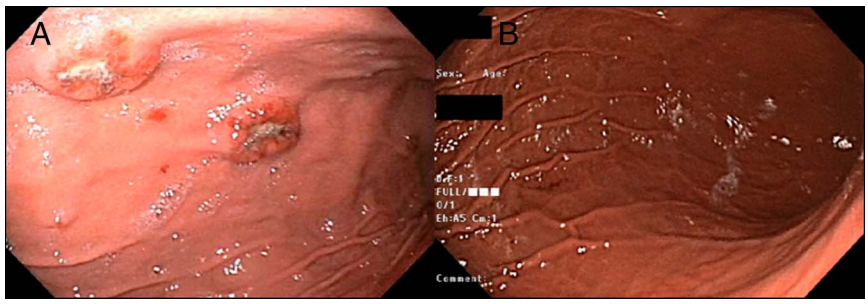

Figure 2. Initial endoscopic view of Kaposi sarcoma showing (A) cratered gastric ulcers and at the follow-up showing (B) complete resolution of lesions on HAART.

yet had complete resolution of his gastric KS on HAART therapy alone, which is exceedingly rare and has not been widely reported.

KS is a neoplasm of vascular tumor of HHV-8-infected endothelial cells, and in the West, it is most commonly associated with untreated HIV infection. Up to half of the patients may have visceral involvement, a quarter of which may involve the GI tract. Lesions in the GI tract may manifest in different phenotypes, and a high degree of suspicion may be warranted by the endoscopist.

DISCLOSURES

Author contributions: R. Nassri, A. Muftah, and M. Muftah wrote and revised the manuscript. A. Nassri wrote the manuscript and provided the images. A. Alkhasawneh revised the manuscript. A. Nassri is the article guarantor.

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