

## Esophageal and Gastric Kaposi's Sarcomas Presenting as Upper Gastrointestinal Bleeding

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Kaposi's sarcoma (KS) is an uncommon malignant neoplasm of mesenchymal tissue that occurs in immunocompromised patients and people of Mediterranean descent. It is most common in males, and skin lesions are usual presentations. However, visceral lesions are common in organ transplant recipients and involve the gastrointestinal tract. Although the gastrointestinal tract is a site for extracutaneous lesions, most lesions are asymptomatic. Herein, a case of a 41-year-old female with cadaveric renal transplantation and immunosuppressive therapy but without human immunodeficiency virus infection is reported. She was admitted due to tarry stool passage and bilateral neck and inguinal lymph node enlargement. Esophagogastroduodenoscopy revealed multiple grayish-purple plaques in the esophagus and stomach with active oozing from one of the stomach lesions. Histological examination demonstrated characteristic spindle cell stroma and vascular slits with hemorrhage. Furthermore, KS was the impression. The site of gastric bleeding produced by KS was injected locally with bosmin 1:10,000, and heat probe coagulation was performed. No further bleeding was discovered during follow-up. Following modification of the immunosuppressive therapy regimen, the lesions disappeared. (*Chang Gung Med J* 2002;25:329-33)

**Key words:** Kaposi's sarcoma, upper gastrointestinal bleeding, renal transplantation.

Kaposi's sarcoma (KS) is a rare tumor comprising 0.1% of all malignancies worldwide and chiefly causes purple cutaneous macules, plaques, or nodular infiltrates in elderly Mediterranean and Eastern European males.<sup>(1,2)</sup> However, there is an increasing incidence following renal transplantation, with immunosuppression, as well as with acquired immunodeficiency syndrome (AIDS).<sup>(3)</sup> KS comprised 0.5%-5.7% of malignancies that occurred in organ transplant recipients.<sup>(4-7)</sup> In 60% of KS patients, lesions were confined to the skin while 40% involved visceral organs and/or lymph nodes. The most common location for KS visceral involvement is the gastrointestinal tract. The small intestine is

most frequently affected, followed by the stomach, esophagus, and colon.<sup>(8)</sup> However, this involvement generally produces no symptoms, and gross bleeding is rare.<sup>(9,10)</sup> Herein, a renal transplant recipient with esophageal and gastric KS and upper gastrointestinal bleeding but without skin involvement is presented.

### CASE REPORT

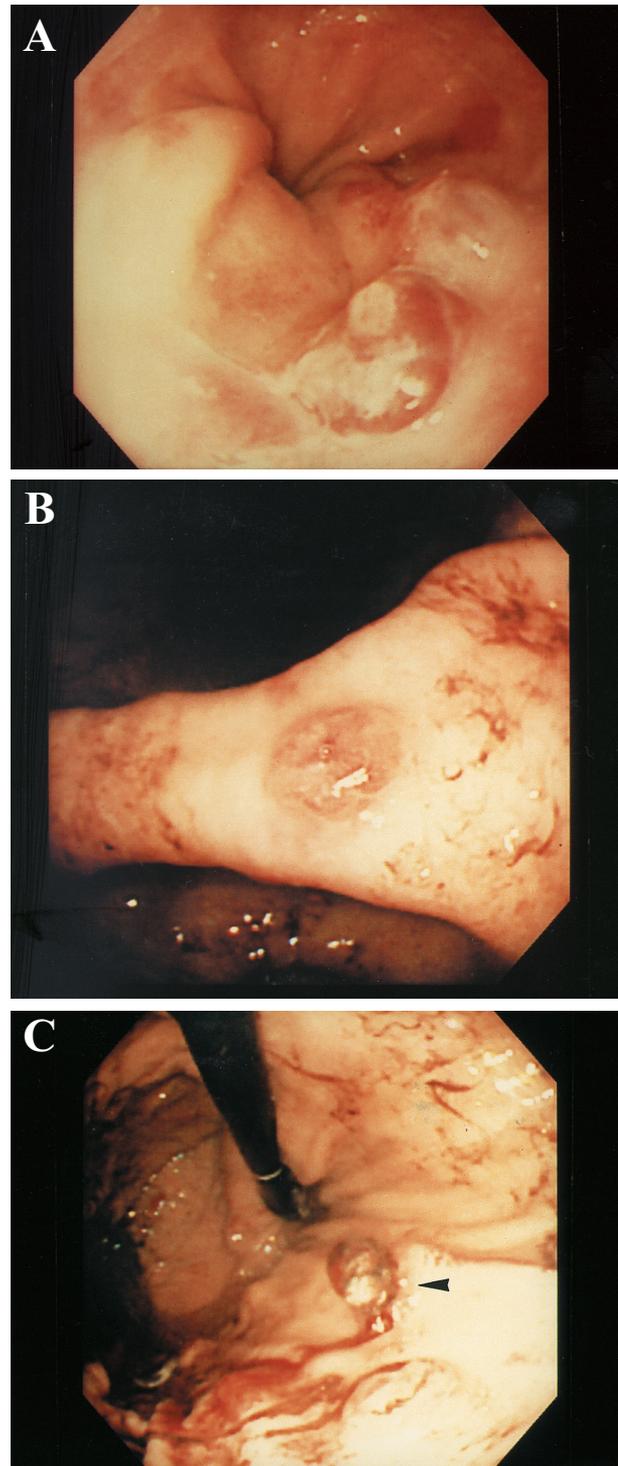
A 41-year-old woman was a case of end-stage renal disease for which regular hemodialysis had been administered since 1990. Cadaveric renal transplantation was performed in January 2000. Following renal transplantation, cyclosporin A (10

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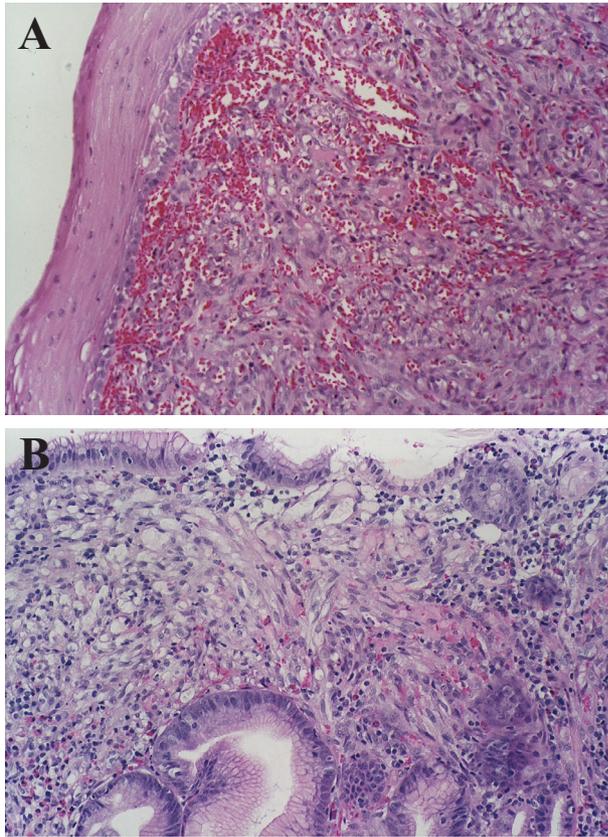
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mg/kg body wt./day) and methylprednisolone were prescribed. Notably, the creatinine level declined from 724.9  $\mu\text{mol/l}$  in January 2000 prior to renal transplantation to 159.0  $\mu\text{mol/l}$  in February 2000. Unfortunately, the creatinine level increased during regular outpatient follow-up and had increased to 901.7  $\mu\text{mol/l}$  by April 2000. Acute rejection of the transplanted kidney was the impression. Pulse therapy with parenteral methylprednisolone was administered; however, renal function failed to improve. Antithymocyte globulin administration was stopped after 1 week due to skin eruptions and itching, which implied an allergic reaction. Thereafter, tacrolimus was prescribed, and the serum level was maintained at approximately 34.0-45.3 nmol/l. In May 2000, the creatinine level had decreased to 265.2  $\mu\text{mol/l}$ , and urine output was approximately 2500-3000 ml/day. Methylprednisolone, tacrolimus, and mycophenolate mofetil were prescribed; 2 months later, the creatinine level had further decreased to 1.5 mg/dl. In September 2000, bilateral neck and inguinal lymph node enlargement without skin lesions occurred. A lymph node biopsy revealed KS. Abdominal computed tomography demonstrated massive lymph nodes in the para-aortic, paracaval, and common iliac regions. Human immunodeficiency virus 1+2 antibody, cytomegalovirus IgM, and herpes simplex virus 1+2 IgM were all negative. Subsequently, in October 2000, the immunosuppressive regimen was modified to azathioprine and methylprednisolone. During admission, which occurred in October 2000, tarry stool passage was found, and a digital examination revealed a melena. Esophagogastro-duodenoscopy and biopsies revealed a few blood clots in the gastric lumen and multiple grayish-purple maculopapular and nodular lesions, which were roughly about 3-6 mm in diameter on the mucosa of the low esophagus and stomach. One of the lesions at the anterior wall of the gastric midbody showed mild oozing (Fig. 1). Local injection of 5 ml of 1:10,000-diluted bosmin around the lesion and heat probe coagulation to the active bleeder were performed. Biopsy specimens from esophageal and gastric lesions confirmed spindle cell proliferation. The spindle cell stroma and vascular slits contained extravasated erythrocytes, which are diagnostic features of KS (Fig. 2). Colonoscopy was also performed, but no similar lesions were found. Bilateral neck and inguinal lymph nodes gradually decreased



**Fig. 1** Esophagogastroduodenoscopy showing multiple grayish-purple maculopapular and nodular lesions in the esophagus (A) and stomach (B), with active bleeding (C) (arrow-head).



**Fig. 2** Esophageal (A) and gastric (B) nodular lesions showing characteristic spindle cell stroma and vascular slits with hemorrhage. (H & E, 200 $\times$ )

in size. A follow-up esophagogastroduodenoscopy in December 2000 revealed complete remission of the esophageal and gastric KS. Concomitant repeated abdominal computed tomography was negative for intra-abdominal and intrapelvic lymph nodes.

## DISCUSSION

KS was first described in 1872 by Moritz Kaposi as idiopathic multiple pigmented sarcomas of the skin.<sup>(3)</sup> The prevalence of KS in Europe and North America prior to the AIDS epidemic ranged from 0.01 to 0.06 per 100,000.<sup>(11)</sup> There is an increasing incidence following renal transplantation and immunosuppression, and in AIDS patients. The incidence of KS following transplantation is 400-500

times greater than that in the general population.<sup>(12)</sup> The median interval from organ transplantation to a KS diagnosis is 29 to 31 (range, 3 to 124) months.<sup>(3)</sup> The prevalence is higher and the average time interval is shorter in patients undergoing immunosuppression, including the use of cyclosporin, corticosteroids, and azathioprine. In 60% of patients with KS, lesions are confined to the skin, while 40% involve visceral organs and lymph nodes. The gastrointestinal tract is the most common location of visceral involvement in KS. The small intestine is affected most frequently, followed by the stomach, esophagus, and colon.<sup>(8)</sup>

Rajan et al. in 1969 and Ahmed et al. in 1975 had previously reported endoscopic appearances of gastrointestinal involvement. They described 3 distinct types of endoscopic lesions. The single most characteristic endoscopic appearance of gastrointestinal KS is a reticulated pattern on a reddish maculopapular lesion that is less than 5 mm in diameter with minimal surface elevation. Notably, this pattern resembles elephant skin. Furthermore, lesions 0.5 to 1 cm in diameter often appear nodular and darker. Excrescences greater than 1 cm in diameter can form volcano-like elevations with central umbilication.<sup>(13,14)</sup>

A diagnosis of gastrointestinal KS is not always possible from an endoscopic biopsy. This low yield is attributed primarily to the submucosal location of the tumor, which renders such biopsy specimens too superficial for diagnosis.<sup>(13)</sup> However, the diagnostic rate may be increased by endoscopic ultrasound-guided biopsy. The histological feature of KS is submucosal proliferation of spindle cells that form slits in which there are extravasated erythrocytes.

The majority of KS gastrointestinal involvement is clinically silent, and gross bleeding is rare. However, when it becomes clinically apparent, it is generally as anemia from chronic blood loss. Pain, obstruction, perforation, intussusception, and protein-losing enteropathy are other less-common manifestations.<sup>(10)</sup> Of more than 450 reported cases of KS, only 8 instances of gross gastrointestinal bleeding have been documented.<sup>(9,10,15)</sup>

The therapeutic approach to KS gastrointestinal bleeding includes injection therapy, heat coagulation, sclerotherapy, H<sub>2</sub> blocker, sucralfate, and general supportive care. Radiotherapy has been described as a potential treatment for hemorrhage which is caused

by a vascular tumor.<sup>(15)</sup> Moreover, surgical excision, angiographic embolization, and systemic chemotherapy are also considered choices of treatments for KS gastrointestinal bleeding.

In most patients, KS regresses with the cessation, reduction, or modification of immunosuppressive therapy. Similarly, a withdrawal or reduction of such therapy in renal transplant recipients results in graft loss in approximately 1/2 of patients.<sup>(3)</sup> In renal transplant recipients, discontinuation of immunosuppressive therapy is an option due to the availability of dialysis. Patients who fail to respond to a reduction or discontinuation of immunosuppressive therapy or local radiation therapy may respond to the combination of doxorubicin, bleomycin, and vincristine.<sup>(5,16,17)</sup>

In summary, KS within renal transplant recipients is a rare cause of gross gastrointestinal bleeding. Herein, we report a case of gastrointestinal KS presenting with active upper gastrointestinal bleeding 9 months after renal transplantation and immunosuppressive therapy. The active bleeding ceased after standard approaches, and KS successfully regressed following modification of the immunosuppressive therapy.

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## 以上消化道出血來表現的食道及胃之卡波希氏肉瘤

林政輝 許朝偉 江仰仁<sup>1</sup> 吳桂芳<sup>2</sup> 邱正堂

卡波希氏肉瘤是一種少見的間質組織惡性腫瘤，常發生於免疫功能不全的患者以及地中海沿岸的居民。通常好發於男性，以皮膚的病變為主。然而在接受器官移植的患者身上，也常有內臟器官的病變，消化道是內臟器官病變的好發部位之一。發生在消化道的卡波希氏肉瘤通常是沒有症狀的。我們報告一位41歲女性病人，接受腎臟移植後，正在服用免疫抑制劑，人類免疫缺乏病毒檢驗為陰性，因為雙側頸部及會陰部淋巴腺腫大和解黑便住院。胃鏡檢查發現在食道及胃有一些紅紫灰色的斑塊，並且在胃裏有一班塊正在出血。組織學檢查顯示紡錘形細胞增生及血管性裂口出血，診斷為卡波希氏肉瘤。卡波希氏肉瘤引起的胃出血則以局部注射合併熱探子治療，之後追蹤並未有出血。這些病變在改變免疫抑制劑的處方後消失。(長庚醫誌 2002;25:329-33)

**關鍵字：**卡波希氏肉瘤，上消化道出血，腎臟移植。