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Colonic perforation in a patient with systemic lupus erythematosus accompanied by cytomegalovirus infection: A case report

Yuichi Tachikawa[a,*], Hiroaki Nozawa[a], Junichiro Tanaka[a], Takeshi Nishikawa[a], Toshiaki Tanaka[a], Tomomichi Kiyomatsu[a], Keisuke Hata[a], Kazushige Kawai[a], Shinsuke Kazama[a], Hironori Yamaguchi[a], Soichiro Ishihara[a], Eiji Sunami[a], Joji Kitayama[a], Madoka Fujisawa[b], Katutoshi Takahashi[b], Yoshiki Sakaguchi[c], Tetsuo Ushiku[d], Masashi Fukayama[d], Toshiaki Watanabe[a]

[a] Department of Surgical Oncology, Graduate School of Medicine, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8655, Japan
[b] Department of Nephrology and Endocrinology, Graduate School of Medicine, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8655, Japan
[c] Department of Gastroenterology, Graduate School of Medicine, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8655, Japan
[d] Department of Pathology, Graduate School of Medicine, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8655, Japan

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ABSTRACT

INTRODUCTION: Cytomegalovirus (CMV) infection of the gastrointestinal tract is an uncommon illness, but can be observed in immunocompromised patients. Systemic lupus erythematosus (SLE) patients are generally at high risk of CMV infection. Here we report a subacute progressive case of colitis in SLE accompanied by cytomegalovirus infection.
PRESENTATION OF CASE: The patient, a 79-year-old woman, was hospitalized complaining of fever, polyarthritis, and skin ulcer that had lasted seven days. She additionally manifested vomiting, high fever, and right abdominal pain within two weeks thereafter, and was diagnosed with perforation of the intestine. Emergency operation was carried out for panperitonitis due to perforation of one of the multiple colon ulcers. Multidisciplinary postoperative treatment could not save her life. Pathological examination suggested that cytomegalovirus infection as well as cholesterin embolization contributed to the rapid progression of colitis.
DISCUSSION: There have been only a limited number of case reports of CMV enteritis in SLE. Moreover, only two SLE patients on multiple medications have been reported to experience gastrointestinal perforation. Viral infections, including CMV, can induce clinical manifestations resembling SLE and for this reason we suspect that there are potentially many more patients misdiagnosed and/or unreported.
CONCLUSION: Our case underscores the importance of exploring the possibility of CMV infection as a differential diagnosis in SLE patients with obvious gastrointestinal symptoms who were treated by immunosuppressive drugs.

1. Introduction

Cytomegalovirus (CMV) infection of the gastrointestinal tract is an uncommon illness, but can be observed in immunocompromised patients.

Systemic lupus erythematosus (SLE) patients are generally at high risk of CMV infection [1–3]. On the other hand, CMV gastrointestinal infection *per se* can induce a variety of symptoms, such as abdominal pain, diarrhea, bleeding, and perforation, mimicking those of lupus enterocolitis [4]. Therefore, it is clinically critical to determine whether these symptoms are stemming from exacerbation of SLE or caused by CMV infection. Here we report an SLE patient on long-term steroid treatment who contracted CMV infection that progressed to fatal colonic perforation.

* Corresponding author. Present address: Department of Surgery, Nadogaya Hospital, 687-4 Nadogaya, Kashiwa-shi, Chiba, Japan.
E-mail addresses: yuichi19810913@yahoo.co.jp (Y. Tachikawa), hiroanozawa-gi@umin.ac.jp (H. Nozawa), tanakaj-sur@h.u-tokyo.ac.jp (J. Tanaka), nishikawata-sur@h.u-tokyo.ac.jp (T. Nishikawa), toshi-t@venus.dti.ne.jp (T. Tanaka), kiyomatsut-sur@h.u-tokyo.ac.jp (T. Kiyomatsu), hatak-sur@h.u-tokyo.ac.jp (K. Hata), kz-kawai@mvd.biglobe.ne.jp (K. Kawai), kaz-tky@umin.ac.jp (S. Kazama), yamaguchih-sur@h.u-tokyo.ac.jp (H. Yamaguchi), ishihara-1su@h.u-tokyo.ac.jp (S. Ishihara), sunami-1su@h.u-tokyo.ac.jp (E. Sunami), kitayama-1su@h.u-tokyo.ac.jp (J. Kitayama), mafujisawa-tky@umin.ac.jp (M. Fujisawa), ktaka-tky@umin.ac.jp (K. Takahashi), sakaguchiy-int@h.u-tokyo.ac.jp (Y. Sakaguchi), usikut-tky@umin.ac.jp (T. Ushiku), mfukayama-tky@umin.ac.jp (M. Fukayama), watanabe-1su@h.u-tokyo.ac.jp (T. Watanabe).

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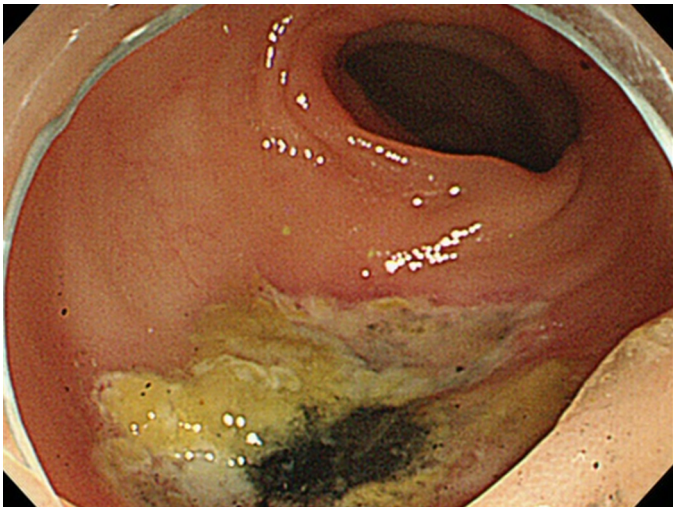

Fig. 1. Colonoscopic findings of a typical colon ulcer.

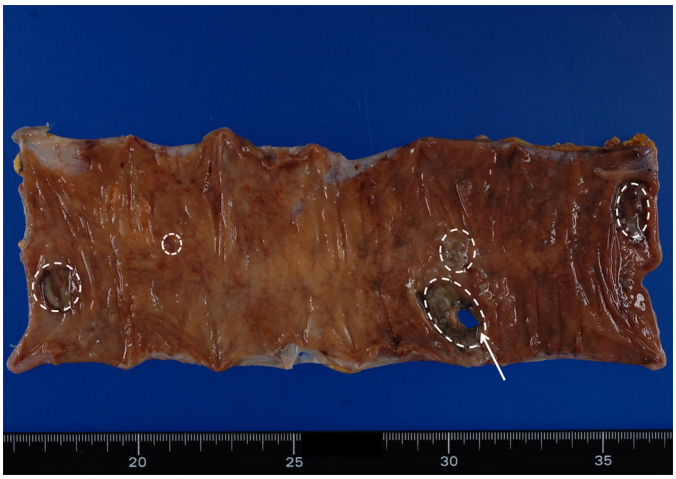

Fig. 3. Macroscopic appearance of the excised segment of the transverse colon bearing five ulcers (dashed lines) and a perforation (arrow).

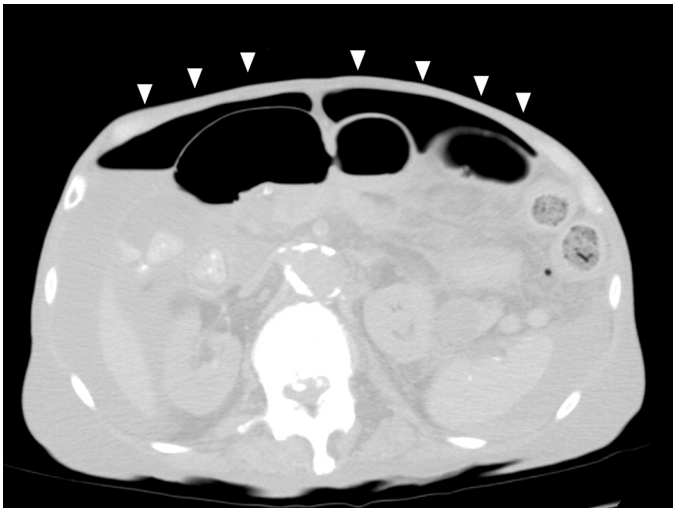

Fig. 2. An abdominal CT scan revealed free air in the peritoneal cavity (arrowheads).

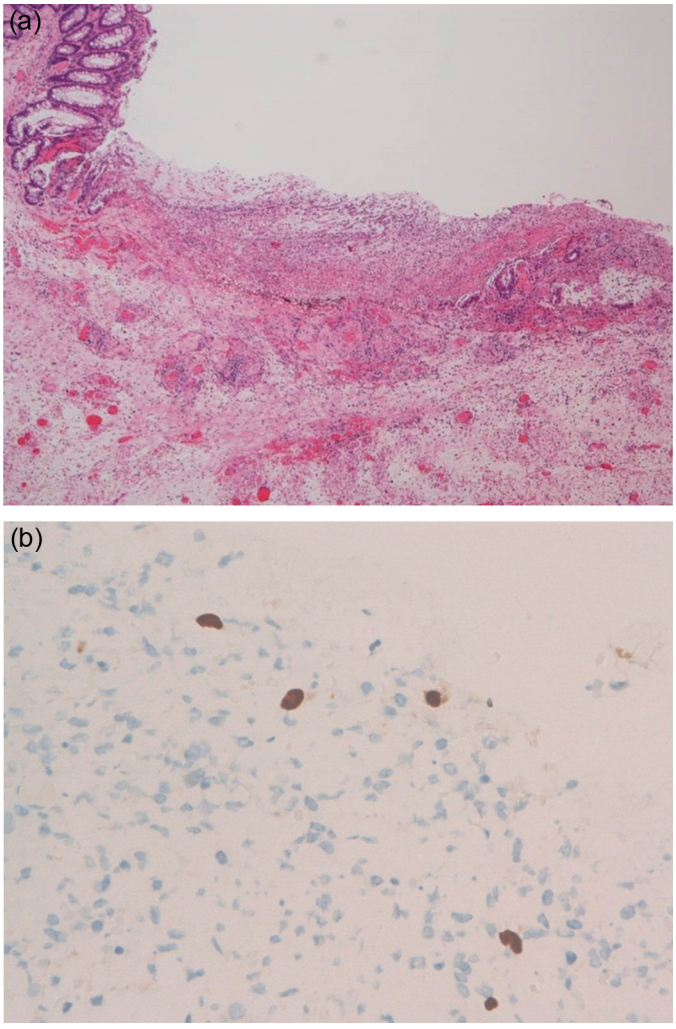

Fig. 4. (a) Histological appearance of an ulcerative lesion of the transverse colon (hematoxylin and eosin staining, original magnification: 40×). (b) Immunohistochemical staining showed CMV-positive cells in the ulcerated lesion (original magnification: 400×).

2. Presentation of case

A 79-year-old woman visited a local practitioner complaining of low grade fever, polyarthritis, and skin ulcers that had lasted seven days. She had been diagnosed with SLE at the age of 51 and continued to be treated with prednisolone for 28 years. Her comorbidities were severe aortic valve stenosis, coronary artery stenosis, emphysematous cystitis, hypertension, and steroid-induced diabetes. She was also medicated with aspirin and limaprost alfadex.

She was referred to our hospital for further examination to assess her symptoms. Laboratory findings showed anemia (hemoglobin 8.0 g/dL), malnutrition (total protein 4.3 g/dL, albumin 2.0 g/dL), and elevated inflammatory reaction (C-reactive protein 3.39 mg/dL). Based on a positive fecal occult blood test, she underwent total colonoscopy, which revealed multiple ulcers in various locations of the colon (Fig. 1). Three days later, vomiting, high grade fever, and right abdominal pain appeared. In addition to high levels of serum procalcitonin (70.5 ng/mL) and C-reactive protein (16.39 mg/dL), CT scan revealed massive free air in the abdomi-