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Gastrointestinal Cytomegalovirus Infection in Collagen Diseases

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Cytomegalovirus infection of the gastrointestinal tract is a rare serious complication in patients with collagen diseases receiving immnosuppressive agents. We report 3 such cases diagnosed by endoscopy followed by proper treatment.
The patients include 38 and 53 years old females with systemic lupus erythematosus. They presented epigastric pain after pulse steroid therapy and combination therapy with steroids and cyclophosphamide, respectively. Their endoscopical findings were multiple small gastric erosions. The other patient was a 60-year-old female with polymyositis who developed rectal bleeding after steroid and imuran therapy. Her endoscopical finding was a discrete, irregular rectal ulcer. The diagnosis of all the patients was confirmed by biopsies of those lesions showing giant cell inclusion bodies and positive staining with anti- cytomegalovirus -antibodies. All patients were treated properly with ganciclovir.
We should always keep in mind of a cytomegalovirus infection of the gastrointestinal tract in a patient with collagen disease receiving immunosuppressive agents.

Key words : Cytomegalovirus, Collagen diseases, Gastrointestinal infection

INTRODUCTION

Gastrointestinal (GI) lesions caused by cytomegalovirus (CMV) are occasionally seen in immunocompromised patients, such as patients who have undergone organ transplantation or suffer from AIDS. These lesions have been rarely reported to occur in patients with collagen diseases. We report 3 such cases with collagen diseases diagnosed by endoscopy followed by proper treatment, and show the typical image of GI lesion by CMV.

CASE REPORTS

Case 1.

A 38-year-old woman underwent 2 courses of methyl predonisolone (1000 mg × 3 days) and cyclophosphamide (1000 mg × 1 day) for nephrotic syndrome secondary to systemic lupus erythematosus (SLE). One month later, the patient developed epigastric pain. Endoscopy was conducted to show multiple small antral erosions. The biopy of the lesion revealed anti-CMV-antibody-positive cells. The lesions regressed following 1 month of Ganciclovir (500 mg/day).

Case 2.

A 53-year-old woman was receiving prednisone (15-60 mg/day) for 3 months for arthralgias complicated with SLE. However, the symptom became more severe and 2 courses of methylpredonisolone (500 mg × 3 days) were further given. One month later, the patient complained of epigastric pain. The chest X-ray and laboratory revealed CMV pneumonia, candidemia. Endoscopy showed multiple small erosions in the antrum. The biopsies of the lesion revealed the giant cell inclusion bodies which were positively stained by anti-CMV-antibodies. Administration of ganciclovir (500 mg/day) for 1 month led to complete resolution of the lesions confirmed by endoscopy.

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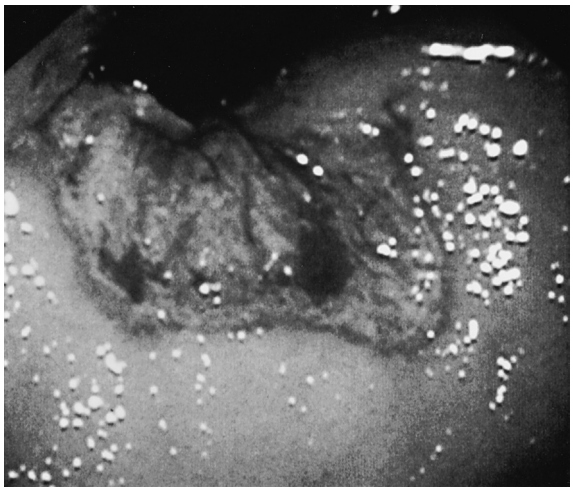

Fig. 1 Endoscopic picture of case 3, showing a discrete, irregular ulcer in the lower rectum.

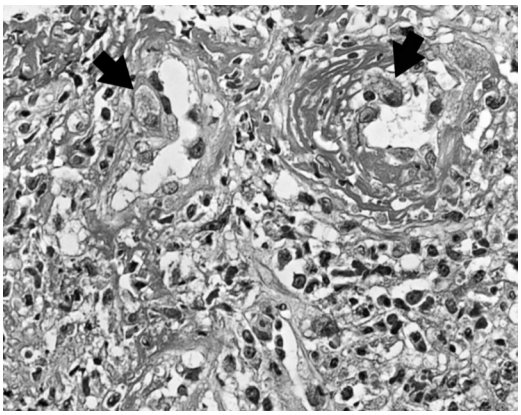

Fig. 2 Histological examination of biopsy specimen taken from the ulcer base in case 3, showing a few cytomegalic inclusion bodies (arrow) (×200).

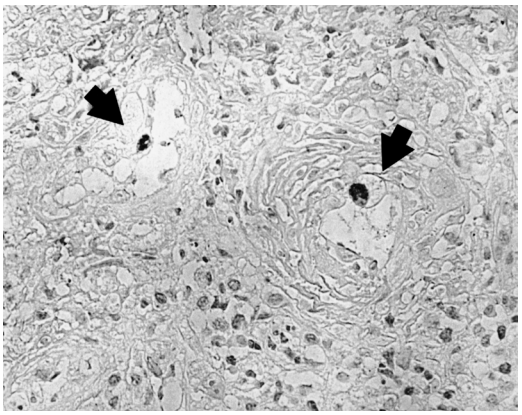

Fig. 3 Immunohistochemical staining using monoclonal antibody of CMV in case 3, showing a few positive cells (×200).

Case 3.

A 60-year-old female diagnosed as polymyositis was initially treated with predonine (20 to 30 mg/day). However because of the resistense, the dosage of predonine was further increased (35 mg/day) and imuran (50 mg/day) was combined. Anal bleeding began 1 month after the combination therapy, and colonoscopy revealed a discrete, irregular ulcer in the lower rectum (Fig. 1). The diagnosis of CMV ulcer was made by the biopsies showing giant cell inclusion bodies which were positively stained by anti-CMV-antibodies (Fig. 2, 3). Rectal bleeding stopped after the administration of ganciclovir (500 mg/day).

DISCUSSION

GI lesions caused by CMV usually occur in immunocompromised patients, especially AIDS and post-transplanted patients. The large intestine is the most common organ in GI tract of CMV infection in pateints with AIDS [1]. CMV inducing GI lesions develop in up to 16 % of the transplanted patient [2]. They also develop in patients with malignant tumors and ulcerative colitis following treat-

Table 1 Clinical Characteristics of Patients with Collagen Diseases Developing CMV Infection of the G.I.Tract

Author	Age/ Gender	Underlying Disease	Treatment	Manifestation/ Endoscopic Findings	Site of CMV Involvement
Henson/1972[3]	65/F	PN	Corticosteroids	Gastric and esophageal ulcers/-	Esophagus, Stomach
Goodman/1979[4]	57/M	RA	Predonisone 20 mg/day	Colonic perforation/-	Cecum
Goodman/1979[4]	22/F	SLE	Predonisone 60-80 mg×10 days	Colonic perforation/-	Transverse Colon
Ayulo/1980[5]	56/F	RA	Predonisone, Cyclophosphamide	Epigastralgia/ Multiple superficial gastric erosions and Fibrinous exudate	Stomach
Iwasaki/1987[6]	42/F	SLE	Steroid	————	Stomach, Lung, Liver, Spleen
Sackier/1991[7]	69/F	WG	Predonisone 60-45 mg×7 days, cyclophosphamide 100 mg/day	Anal bleeding/-	Ileum
present case 1	53/F	SLE	Methylprednisolone 500 mg×3 days × 2	Epigastralgia/ Multiple small gastric Erosion	Stomach, Lung
present case 2	38/F	SLE	Methylprednisolone 500 mg×3 days × 2, Cyclophoshpamide 1,000 mg×1 day × 2	Epigastralgia/ Multiple small gastric erosion	Stomach
present case 3	60/F	DM	Predonisone 35 mg/day, Azathioprine 50 mg/day	Anal bleeding/ Discrete, irregular rectal ulcer	Rectum

Periarteritis nodosa, PN; Systemic Lupus Erythematosus, SLE; Rheumatoid Arthritis, RA; Wegener's Granulomatosis, WG; Dermatomyositis, DM

ment with steroids, chemotherapy, immunosuppressive agents, and radiation. However to the best of our knowledge, there are only 6 reports of CMV induced GI lesions in patients with collagen disease as shown in Table 1 [3-7]. Steroids are considered to have induced such lesions, because all the reported cases are previously given steroids for treatment of collagen diseases.

The characteristic endoscopic findings of CMV infection of GI tract is usually discrete, irregular ulcers, though these findings cannot always allow to differentiate from giant hypertrophic gastritis, hypertrophic gastropathy, inflammatory bowel diseases, and malignant tumors [8-12]. Confirmative diagnosis relies on the existence of giant cell inclusion bodies positively stained by anti-CMV-antibodies in the lesion obtained by biopsy. Our patients showed the ordinary ulcer in the rectum and gastric multiple small erosions. Time interval between the beginning of the symptoms and causative medications were within 1 month after the start of the intensive therapy in our cases. Too late diagnosis might be fetal by massive

GI bleeding and perforation.

We should always keep in mind of CMV infection of the GI tract in patients with collagen diseases receiving steroids.

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