

Adenovirus-related gastric lesion in a patient with a bone marrow transplant



Fig. 1 a, b Endoscopic images showing irregular ulcers and the friable nodular mucosa (a standard; b indigo-carmin staining).

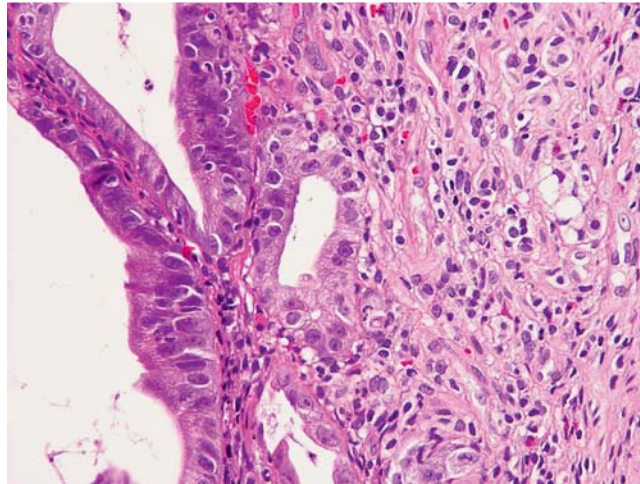


Fig. 2 Histological section of the lesion edge showing inflammation and degenerating gastric epithelial cells, predominantly surface crypt and foveolar epithelium (hematoxylin and eosin, magnification $\times 400$).

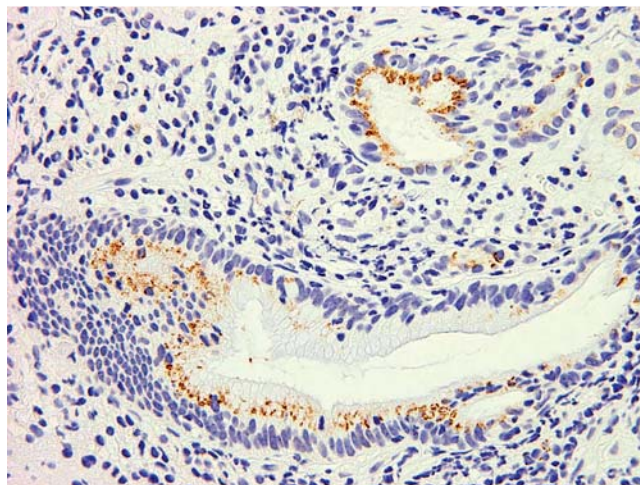


Fig. 3 Immunohistochemistry: the superficial gastric epithelial cells stained positively with the antibody for adenovirus antigen.

Adenovirus is one of the many pathogens and opportunistic agents that may cause serious infection in immunocompromised hosts or in patients undergoing immunosuppressive treatment for organ and tissue transplantation [1]. Gastrointestinal lesions associated with adenovirus infection have been rarely reported, probably because of a lack of awareness.

A 45-year-old man was diagnosed as having acute monocytic leukemia. Following complete remission by intensive chemotherapy, he received a reduced-intensity allogeneic stem cell transplant. Thereafter he was treated with cyclosporin. After 12 months, the patient was admitted to the hospital with hemorrhagic cystitis. He underwent upper gastrointestinal endoscopy as he had complained of epigastric discomfort and pain on swallowing. Endoscopy revealed irregular-shaped ulcers surrounded by fragile nodular mucosa in

the lesser curvature and anterior wall, extending from the lower gastric body towards the angle (Fig. 1).

Endoscopic biopsy specimens taken from the border of the lesions demonstrated mucosal inflammatory infiltrate and degeneration of gastric epithelial cells (Fig. 2).

There were no intranuclear inclusion bodies in the stromal cells in the biopsy specimens, including the endothelium, suggestive of cytomegalovirus (CMV) infection. Immunohistochemical analysis was performed using specific antibodies against CMV, Epstein-Barr virus (LMP1), herpes simplex and zoster, human papillomavirus, and adenovirus antigen. Of note, the superficial gastric epithelial cells showed positive immunostaining with the antibody for adenovirus antigen (Fig. 3).

The patient was treated with a proton pump inhibitor (omeprazole) for 8 weeks. Although his clinical symptoms have resolved, he continues to be on antiviral therapy.

Typical adenovirus-associated gastrointestinal disorders are characterized by histological changes involving the surface epithelium, the features of which include cellular degeneration (particularly of mucous cells), loss of orientation, and vacuolization [1,2], whereas CMV infection predominantly affects the gastrointestinal stroma, in particular the endothelium and rarely involves epithelial cells [1].

Competing interests: None

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