

Intestinal graft-versus-host-disease staging by video capsule endoscopy

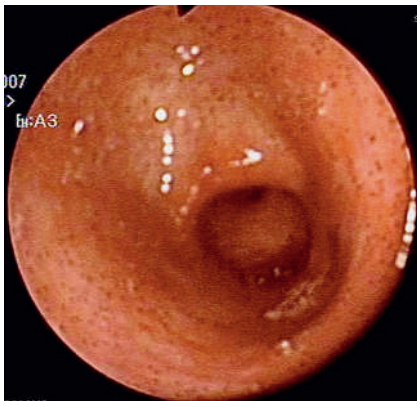


Fig. 1 Endoscopic appearance of severe diffuse hemorrhagic inflammation of the sigmoid colon.

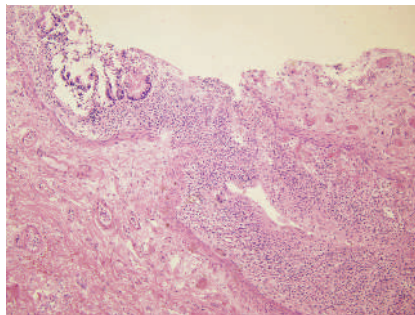


Fig. 2 Histological section (H&E staining) showing autolytic mucosa of the small bowel with acute fibrinous and chronic inflammation. Pronounced submucosal edema and dilated capillary vessels due to graft-versus-host disease.

Graft-versus-host disease (GvHD) is a leading cause of morbidity and mortality in patients who have undergone allogeneic bone marrow or peripheral blood stem cell transplantation (BMT/PBSCT) [1]. About 20–50% of patients who have received BMT/PBSCT develop symptoms of acute GvHD [2]. GvHD most often affects the skin, liver, and gastrointestinal tract. In severe intestinal GvHD broad ulcerative lesions develop, leading to diarrhea, malabsorption, intestinal hemorrhage, and sepsis [3]. The gold standard in the diagnosis of intestinal GvHD is upper and lower gastrointestinal endoscopy with histological validation [4].

A 57-year-old woman with acute myeloid leukemia who had recently received a PBSCT from an HLA-identical sibling suffered severe hemorrhagic diarrhea. The symptoms started 12 days after the transplant. The diagnosis of GvHD was histologically and endoscopically confirmed by sigmoidoscopy (CF-H180AI/L; Olympus Co. Ltd., Tokyo, Japan) (► **Fig. 1**). Esophagogastroduodenoscopy did not reveal relevant pathological findings.

Since the patient's condition rapidly deteriorated, a total colectomy was discussed as a last therapeutic option following the failure of several immunosuppressive drug regimens including corticosteroids, cyclosporine, mycophenolate mofetil, pentostatin, infliximab, and antithymocyte globulin. Video capsule endoscopy (PillCam SB; Given Imaging Ltd., Yoq-

neam, Israel) carried out to evaluate small-bowel involvement in the GvHD revealed continuous severe hemorrhagic inflammation of the entire small intestine starting from the proximal jejunum (► **Video 1**) and ending in the terminal ileum (► **Video 2**).

Video capsule endoscopy proved to be a successful minimally invasive diagnostic method, accurately visualizing the involvement of the small intestine in severe GvHD, obviating the necessity for diagnostic surgical exploration in a clinically unstable patient.

The patient died of multiorgan failure due to GvHD. Histological analysis of the intestine confirmed severe GvHD involving the entire small intestine and colon (► **Fig. 2**). We conclude that video capsule endoscopy is suitable for staging intestinal GvHD especially in those patients unable to tolerate invasive diagnostic measures such as double-balloon enteroscopy or surgery.

Video 1

Sequence of video capsule endoscopy of the proximal jejunum showing severe hemorrhagic mucosal inflammation and broad ablation of the mucosal surface.

Video 2

Sequence of video capsule endoscopy of the ileum with large amounts of intraluminal blood due to severe graft-versus-host disease.

Endoscopy_UCTN_Code_CCL_1AC_2AD

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Bibliography

DOI 10.1055/s-2007-995767
Endoscopy 2008; 40: E144

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