Hemorrhage from small-bowel diverticula is rare and requires a high degree of clinical suspicion and an adequate endoscopic view for the diagnosis [1,2]. Effective endoscopic therapy in this setting, as with most types of upper gastrointestinal bleeding, requires first that the lesion be adequately identified. Unfortunately, blood clot and particulate matter frequently obscure the field of view and prevent identification and treatment of the bleeding source. Conventional upper endoscopes with 2.8- and 3.7-mm working channels are often underpowered to effectively suction and clear blood clots and retained food material. Although repositioning of the patient, use of large-bore lavage tubes, and second look endoscopy after erythromycin infusion are useful adjunctive measures, endoscopically directed clearing of the field with simultaneous viewing would be ideal [3,4]. Recently, a “jumbo-channel” gastroscope (GIF-XTQ160, Olympus Corporation, Tokyo, Japan) has become widely available and boasts a 6-mm working channel for increased effectiveness in evacuating blood clots and debris (Fig. 1).

Identification and treatment of a duodenal diverticular hemorrhage: an illustration of the usefulness of the jumbo-channel therapeutic endoscope

An 88-year-old woman presented to our institution with acute hematemesis and weakness. She underwent upper endoscopy using a double-channel therapeutic gastroscope (GIF 2T160, Olympus). Fresh and old blood were found throughout the upper gastrointestinal tract, with the medial segment of D2 markedly abnormal with adherent food debris (Fig. 2 a). The initial impression was that of an ampullary malignancy; however, the blood clots and debris could not be cleared despite multiple attempts of flushing, suctioning, and the use of a polypectomy snare (Sensation, US Endoscopy, Mentor, Ohio, USA). The jumbo-channel gastroscope was then introduced and used to apply high-volume lavage followed by suction. This procedure quickly revealed an enormous duodenal diverticulum (Fig. 2 b), with an adherent clot at the 6 o’clock position (Fig. 2 c). The clot was suctioned out, revealing a prominent visible vessel (Fig. 2 d), which was injected with dilute epinephrine and treated with two hemoclips (Resolution, Boston Scientific, Natick, Massachusetts, USA) (Fig. 2 e). The patient recovered well without further bleeding episodes and was discharged 5 days later.

Although hemorrhaging from duodenal diverticula is rare and has historically been treated with surgery, it can be effec-

Moyer MT et al. Identification and treatment of a duodenal diverticular hemorrhage... Endoscopy 2009; 41: E230 –E231
tively treated endoscopically, as demon-
strated in this case, provided that the le-

tion can first be seen [4]. Given the fre-
quency that effective endoscopic treat-
ment of acute upper gastrointestinal
bleeding is complicated by blood clots
and/or debris obscuring the source of
bleeding and inhibiting treatment, the
jumbo-channel therapeutic endoscope
may represent an important step forward
in the management of acute upper gas-
trointestinal bleeding. It is important not
to overinterpret the results of this single
case demonstration; however, it should
be noted that the prototype of this scope
was compared with conventional thera-
petic endoscopes in a clinical trial by
Kodali et al. and found to be superior in
terms of aspirating blood, clots, and solid
debris. It was also shown to be successful
in clearing the stomach in 78 % of patients
in whom a conventional therapeutic en-
doscope was ineffective [5].

Endoscopy_UCTN_Code_TTT_1AO_2AD

M. T. Moyer, D. M. Bethards
Division of Gastroenterology and
Hepatology, Penn State Hershey Medical
Center, Hershey, Pennsylvania, USA

References
1 Yin WY, Chen HT, Huang SM et al. Clinical a-
alysis and literature review of massive duodenal diverticular bleeding. World J
Surg 2001; 25: 848 – 855
2 Leivonen MK, Haltonen JA, Kivilaakso EO.
Duodenal diverticulum at endoscopic retro-
grade cholangiopancreatography: analysis of
123 patients. Hepatogastroenterology
1996; 43: 961
3 Kwan V, Norton I. Endoscopic management
of non-variceal upper gastrointestinal haem-
4 De astro LM, Hermo JA, Pineda JR et al. Acute
bleeding and anemia associated with intra-
luminal duodenal diverticulum: case report
and review. Gastrointest Endosc 2003; 57:
976 – 979
5 Kodali VP, Peterson BT, Miller CA et al. A new
jumbo-channel therapeutic gastroscope for
acute upper gastrointestinal bleeding. Gas-
Gastrointest Endosc 1997; 45: 409 – 415

Bibliography
Endoscopy 2009; 41: E230 – E231
© Georg Thieme Verlag KG Stuttgart · New York ·
ISSN 0013-726X

Corresponding author
M. T. Moyer, MD
Division of Gastroenterology and Hepatology
Penn State Hershey Medical Center
Hershey
Pennsylvania 17033
USA
Fax: +1-717-531-6770
mmoyer@psu.edu

Moyer MT et al. Identification and treatment of a duodenal diverticular hemorrhage... Endoscopy 2009; 41: E230 – E231