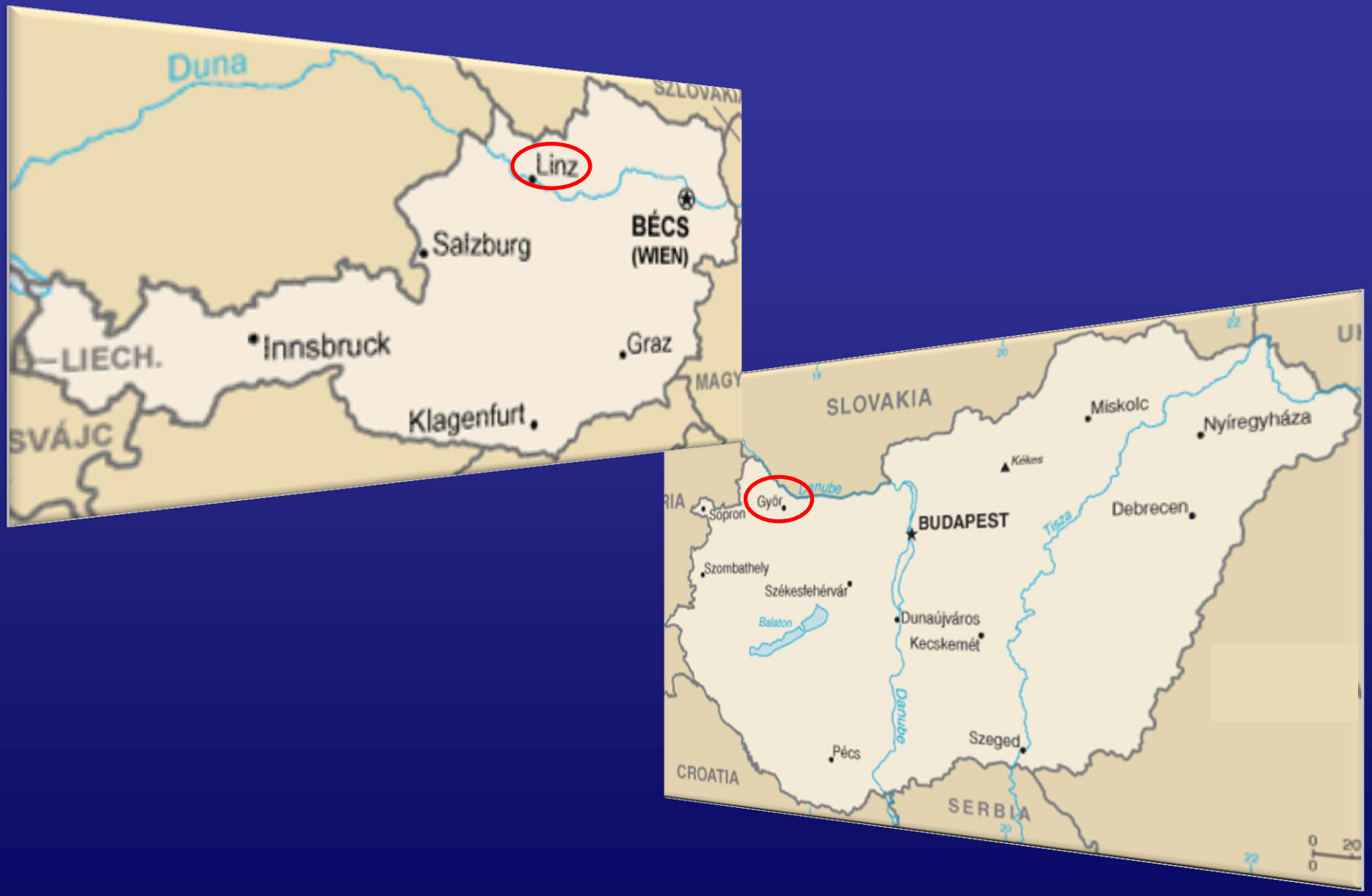
BLUTUNGEN
Gastrointestinal bleeding

István Rácz, MD

Petz Aladár County and Teaching Hospital

Győr, Hungary


Duna
Linz
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(WIEN)
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SLOVAKIA
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Kékes
Győr
Sopron
BUDAPEST
Debrecen
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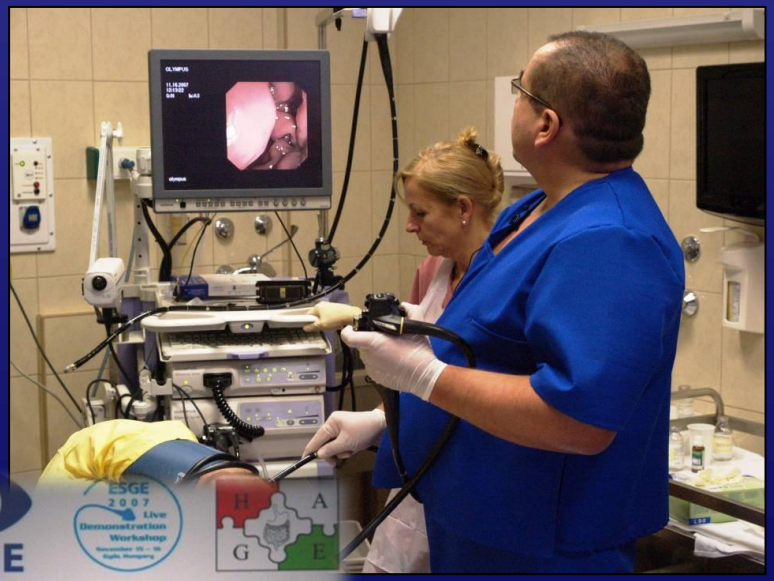


ESGE

ESGENA

International Live Endoscopy Workshop Budapest

14-15 September 2012

Military Hospital, Budapest, HUNGARY

under the auspices of
Csaba HENDE – Minister of Defense

ESGE

Győr, Petz Aladár County and Teaching Hospital

Course Directors:
István Rácz, Rainer Schöfl

ESGENA

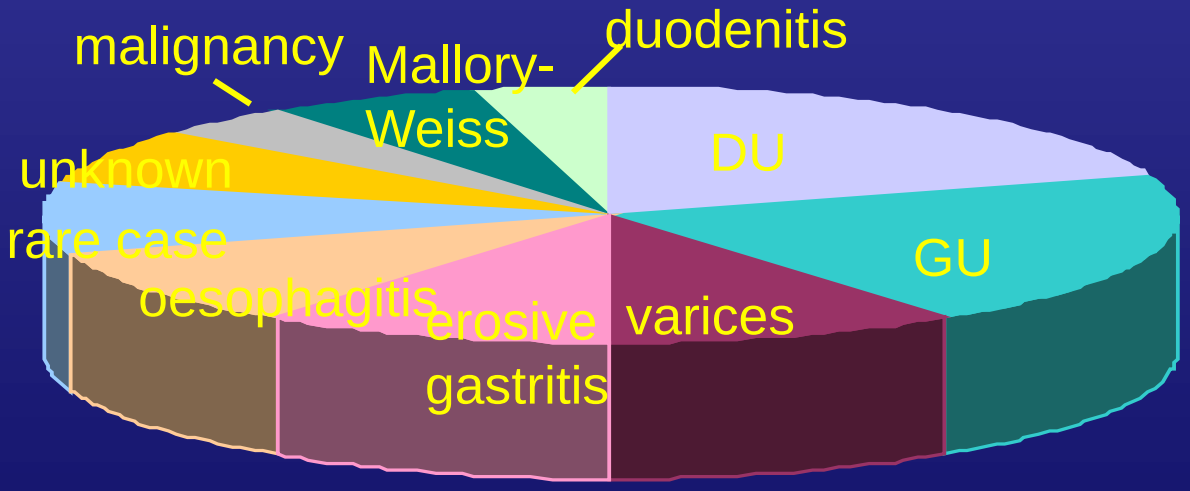
15 & 16 November 2007, International Workshop
Bartók Béla Centre, Győr, Hungary

Epidemiology

Acute upper GI bleeding

Ulcer bleeding: 40-60 %

70-100/100.000 patients annually



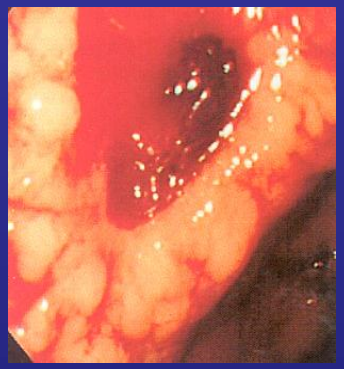
Győr, Hungary
UGIB pts.
148 in 2013

AGA data

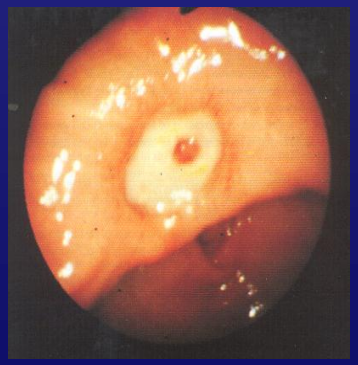
Ulcer bleeding

Endoscopic hemostasis indicated

Forrest Ia



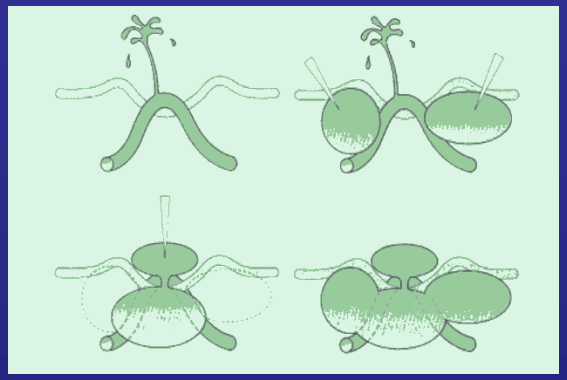
Forrest Ib



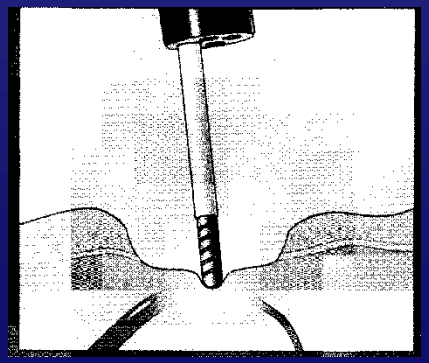
Forrest IIa

Forrest IIb (?)

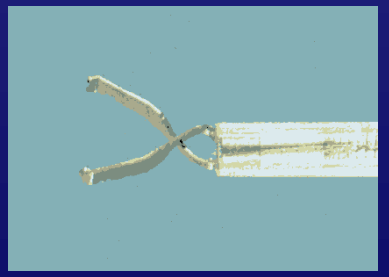
Hemostatic methods



Injection



Thermal



Hemoclip

Available endoscopic hemostatic methods

(2013)

Techniques	ulcer	tumor	varix
1.) Injection (epinephrine-NaCl)	+	-	-
2.) Thermo probe (HPU)	+	-	-
3.) Hemoclip	+	-	-
4.) Endo-loop	-	-	+
5.) Aethoxysclerol	-	-	+
6.) Band ligation	-	-	+
7.) Argon-plasma coag. (APC)	+	+	-
8.) Cyanoacrylate (Histoacryl)	-	-	+
9.) Fibrin glue (fibrinogen+thrombin)	+	-	-
10.) Oesophageal metal stent	-	+	-
11.) „Over the scope” clip (OVESCO)	+	-	-
12.) Hemospray	+	+	-

Available endoscopic hemostatic methods

(2013)

Techniques	ulcer	tumor	varix
1.) Injection (epinephrine-NaCl)	+	-	-
2.) Thermo probe (HPU)	+	-	-
3.) Hemoclip	**+**	**-**	**-**
4.) Endo-loop	**-**	**-**	**+**
5.) Aethoxysclerol	-	-	+
6.) Band ligation	-	-	+
7.) Argon-plasma coag. (APC)	+	+	-
8.) Cyanoacrylate (Histoacryl)	**-**	**-**	**+**
9.) Fibrin glue (fibrinogen+thrombin)	+	-	-
10.) Oesophageal metal stent	-	+	-
11.) „Over the scope” clip (OVESCO)	+	-	-
12.) Hemospray	**+**	**+**	**-**

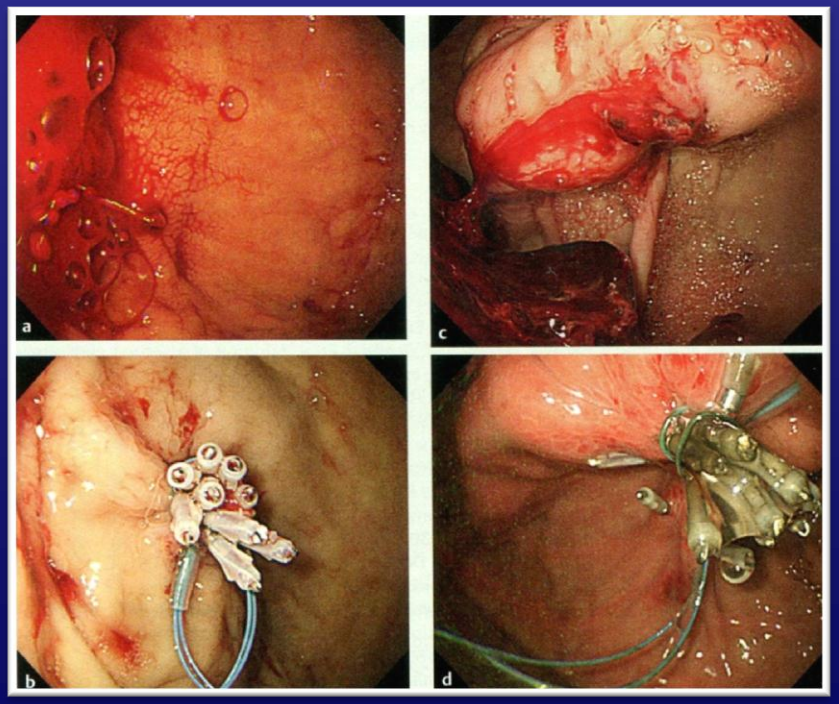
Rescue endoscopic bleeding control for nonvariceal upper gastrointestinal hemorrhage using clipping and detachable snaring

Endoscopy 2013; 45: 489–492

Authors J. H. Lee[1], B. K. Kim[2], D. C. Seol[1], S. J. Byun[2], K. H. Park[2], I. K. Sung[1], H. S. Park[1], C. S. Shim[1]

Institutions [1] Digestive Disease Center, Department of Internal Medicine, Konkuk University Medical Center, Seoul, Korea
[2] Digestive Disease Center, Department of Internal Medicine, Hong Ik Hospital, Seoul, Korea

- rescue endoscopic therapy in 7 out of 100 pts (Forrest Ia,b or IIa)
- initial endo-Rx (inj.+clipping or coag.) was failing
- multiple clips fixed by detechable snare
- sucess: all

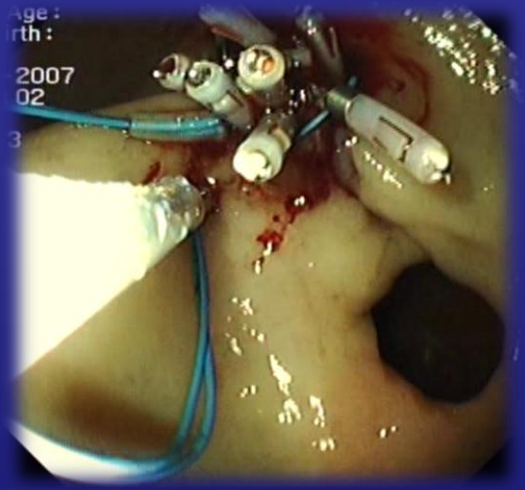


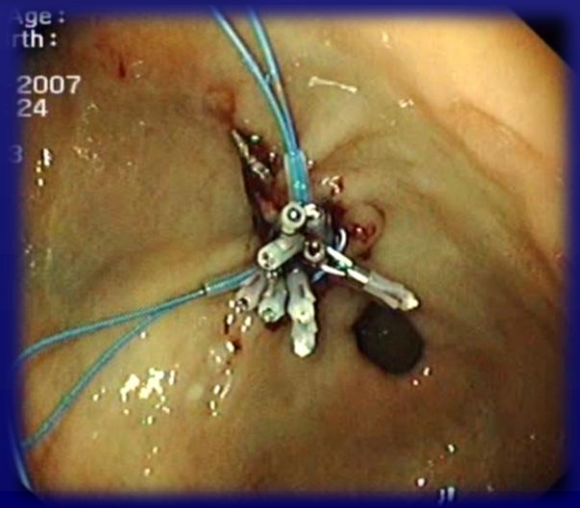
Endoscopic hemostasis of bleeding gastric ulcer with a combination of multiple hemoclips and endoloops

István Rácz, MD, PhD, Tibor Kárász, MD, Hussam Saleh, MD

Gyor, Hungary

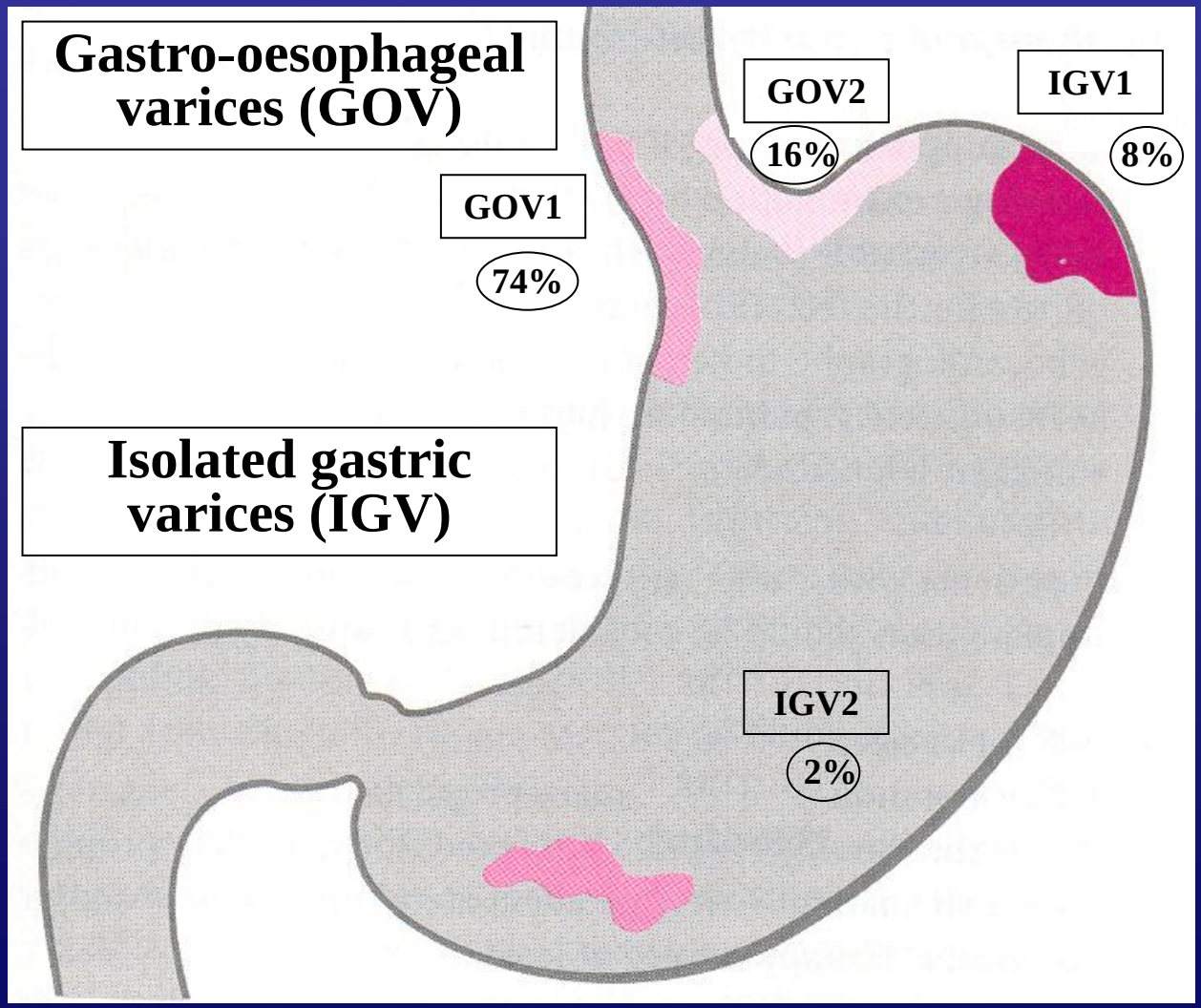
GASTROINTESTINAL ENDOSCOPY Volume 69, No. 3 : Part 1 of 2 : 2009 www.giejournal.org

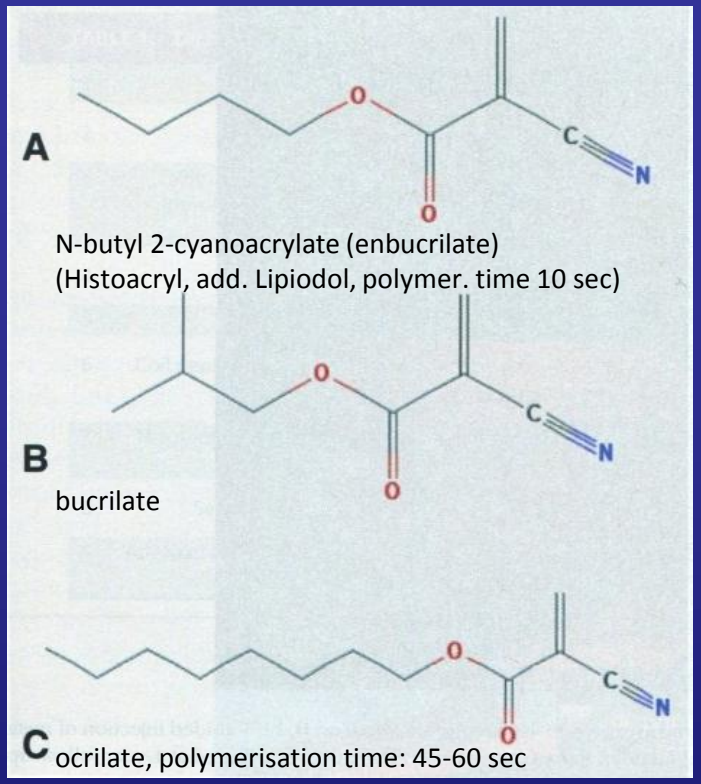




Gastric Varices

Saurin SK et al.
Hepatology 1992, 16, 1343





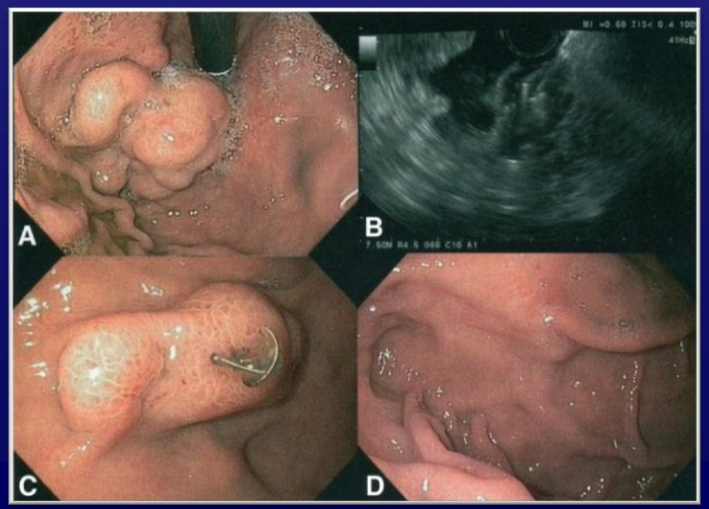
TECHNICAL REVIEW

Cyanoacrylate applications in the GI tract

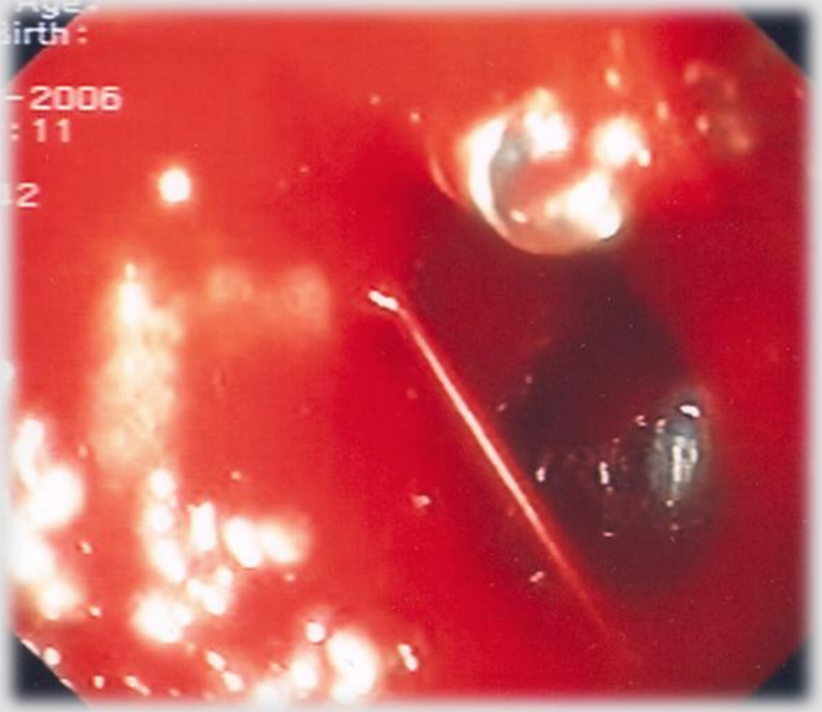
Rees Cameron, MD, Kenneth F. Binmoeller, MD
San Francisco, California, USA

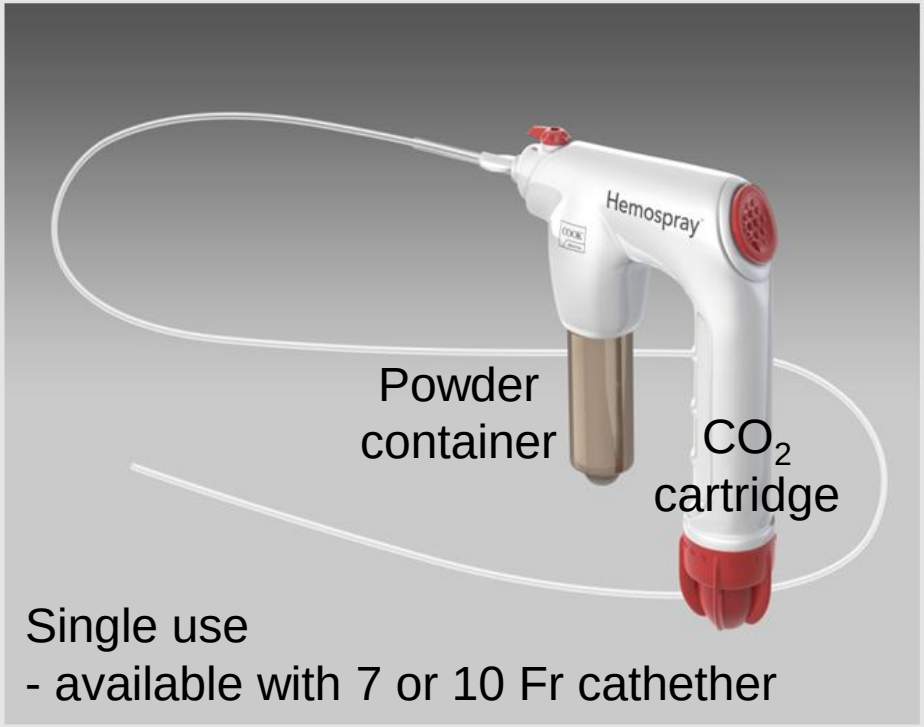
GASTROINTESTINAL ENDOSCOPY Volume 77, No. 6 : 2013

- gastric varices: well-established
- varix obliteration 70-90%
- rebleeding < 30%
- secondary prophylaxis of bleeding
- primary prophylaxis for varices > 10 mm
- EUS monitoring
- to find the main „perforating”feeding vein (Romero-Castro)



Hemospray™ Endoscopic Hemostat: A New Modality for Endoscopic Hemostasis





Single use
- available with 7 or 10 Fr cathether

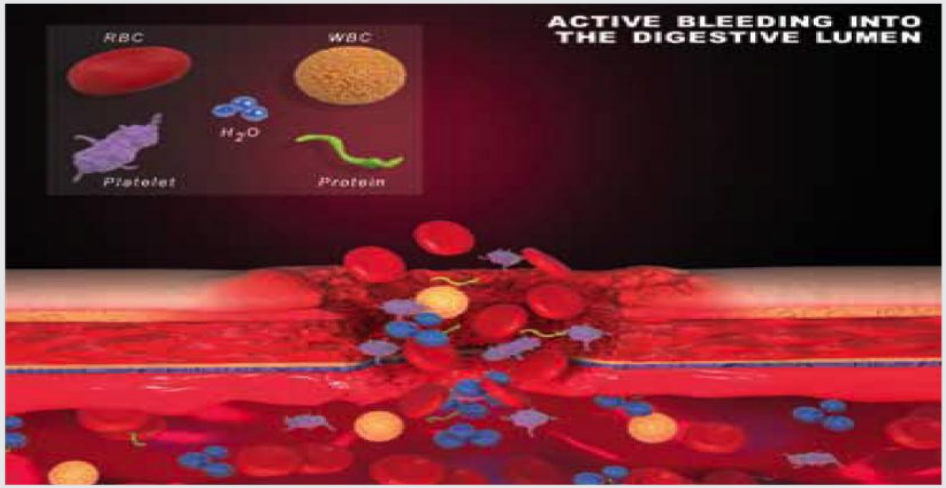

Videos Courtesy of
Prof. Jacques Bergman, AMC Amsterdam, Netherlands

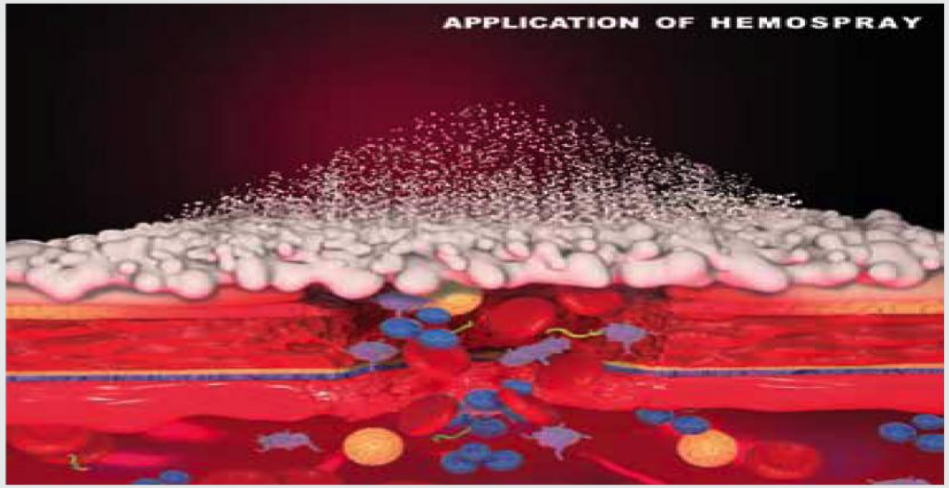
What is Hemospray?

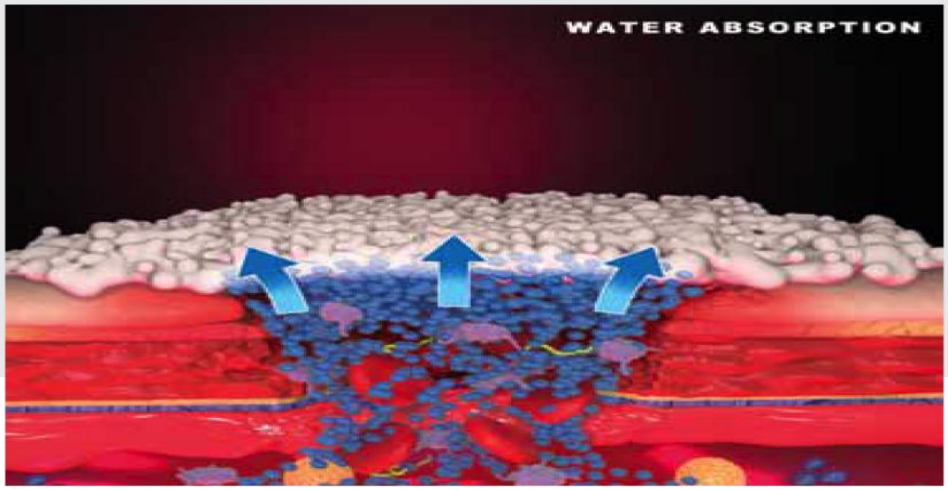
- Hemospray is a proprietary **mineral blend powder** developed specifically for endoscopic hemostasis.
- It contains **no human or animal proteins** or botanicals and has **no known allergens**.
- Hemospray is metabolically inert and deemed **nontoxic**, systemically or otherwise.

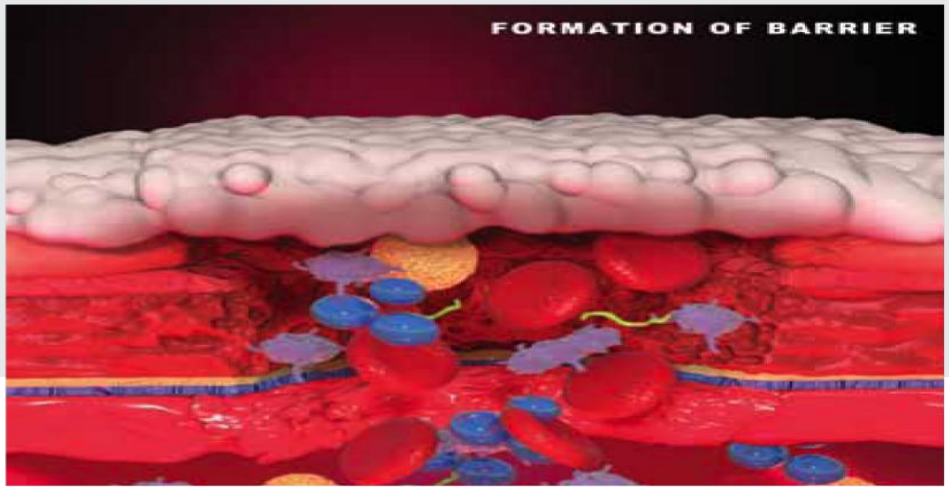
How does Hemospray work?

When Hemospray comes in contact with blood, the powder absorbs water, then acts both cohesively and adhesively, forming a mechanical barrier over the bleeding site.









COOK® MEDICAL Hemospray® ENDOSCOPIC HEMOSTAT

Studies & Publications

Giday/Animal Study

Long-term randomized controlled trial of a novel nanopowder hemostatic agent (TC-325) for control of severe arterial upper gastrointestinal bleeding in a porcine model

Authors S. A. Giday[1,2], Y. Kim[1,3], D. M. Krishnamurty[1], R. Ducharme[4], D. B. Liang[1], E. J. Shin[1], X. Dray[1,5], D. Hutcheon[1], K. Moskowitz[4], G. Donatelli[1], D. Rueben[6], M. I. Canto[1], P. I. Okolo[1], A. N. Kalloo[1]

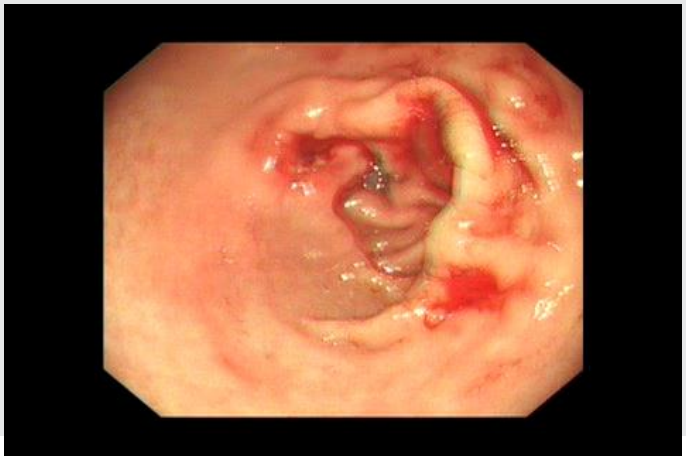
Institutions Institutions are listed at the end of article.

2010

Sung/PU Study

Acute Hemostasis: 19/20 patients ‡
No Recurrent Bleeding: 17/19 patients †
Procedural Adverse Events: None
Device-related SAE: None
Mortality/SAE at 30-day follow-up: None (20 patients)

Conclusion: These pilot results indicate that Hemospray is safe in humans. Hemospray was effective in achieving acute hemostasis in active peptic ulcer bleeding.



Early clinical experience of the safety and effectiveness of Hemospray in achieving hemostasis in patients with acute peptic ulcer bleeding

Authors: J. J. Y. Sung[1], D. Luo[1], J. C. Y. Wu[1], J. Y. L. Ching[1], F. K. L. Chan[1], J. Y. W. Lau[1], S. Mack[2], R. Ducharme[3], P. Okolo[4], M. Canto[4], A. Kalloo[4], S. A. Giday[4]

Institutions:
[1] Institute of Digestive Disease, The Chinese University of Hong Kong, Hong Kong
[2] Cook Medical, Winston-Salem, North Carolina, USA
[3] MED Institute, West Lafayette, Indiana, USA
[4] Department of Medicine, Johns Hopkins Institute, Baltimore, USA

2011

durally, by second-look endoscopy (72 hours post treatment), and by phone at 30 days. Rate of hemostasis, recurrent bleeding, mortality, need for surgical intervention, and treatment-related complications were assessed.

Results: 20 patients were recruited (18 men, 2 women; mean age 60.2 years). Acute hemostasis was achieved in 95% (19/20) of patients; 1 patient had a pseudoaneurysm requiring arterial embolization. Bleeding recurred in 2 patients within 72 hours (shown by hemoglobin drop); neither had active bleeding identified at the 72-hour endoscopy. No mortality, major adverse events, or treatment- or procedure-related serious adverse events were reported during 30-day follow-up.

Conclusion: These pilot results indicate that Hemospray is safe in humans. Hemospray was effective in achieving acute hemostasis in active peptic ulcer bleeding.

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Room 101
University Administration Building
The Chinese University of Hong Kong
Shatin, New Territories, Hong Kong
Fax: +852-26037301
joesung@cuhk.edu.hk

Introduction

Endoscopic hemostasis has been widely recognized as the first-line treatment for peptic ulcer bleeding. However some 5%–10% of patients still experience recurrence of bleeding after initial hemostasis with combined endoscopic therapy including injection, thermal coagulation, or mechanical hemostasis [1]. In patients with severe active bleeding and challenging anatomy, endoscopic treatment can be difficult and a higher level of technical expertise is often required. A simple and effective method of endoscopic hemostasis would have a significant impact on the treatment of active gastrointestinal bleeding.

The Hemospray powder is highly adsorptive with a multimodal mechanism of action. When in contact with moisture (e.g. blood and tissue) in the gastrointestinal tract, the powder becomes cohesive and adhesive, and forms a stable mechanical barrier which adheres to and covers the bleeding site to achieve hemostasis. The Hemospray powder is not absorbed or metabolized by mucosal tissue and therefore appears to have no risk of systemic toxicity. The covering formed by the powder sloughs from the lesion of the digestive tract wall and is naturally eliminated from the gastrointestinal tract. Endoscopic application of Hemospray for the treatment of acute arterial bleeding in the gastrointestinal tract has been explored recently in an animal model. In a randomized controlled swine model study in which arterial bleeding in the gastrointestinal tract was induced to test the hemostasis effect of Hemospray (TC-325), Giday et al. [2] reported 100% initial cessation of bleeding with the use of Hemospray versus 0% in the control group which did not receive any treatment. Hemospray was found to be eliminated from the stomach of animals within 48 hours with no complication associated with passage of the powder through the gastrointestinal tract.

J. Clin. Gastroenterol 2013 Dec

SEAL Product Evaluation

Survey to Evaluate the Application of Hemospray™ in the Luminal Tract

Objective: To gain clinical experience with Hemospray in Europe and Canada

97 patients

Gastroduodenal ulceration	58% (n=41)
Tumours	7% (n=5)
Oesophageal ulceration	4% (n=3)
Dieulafoy lesion	4% (n=3)
Post EMR	3% (n=2)
GAVE	3% (n=2)
Other causes	21%(n=15)

SEAL-Clinical Outcomes

	Hemospray Monotherapy	Hemospray + Additional endoscopic therapy	Standard endoscopic therapy + Hemospray
Number of Patients	39	8	24
Rockall Score (median)	5.5 (range 3-10)	7 (range 5-10)	6.5 (range 5-7)
Primary Haemostasis	38/39 (97%)	6/8 (75%)	16/24 (67%)
Rebleed (7 days)	6/38 (16%)	1/6 (17%)	6/16 (38%)
Mortality (7 days)	3/39 (8%)	0	2/24 (8%)

.

Hemospray indications (FDA)

- non-variceal acute upper GI bleeding
- lower GI bleeding (Canada)

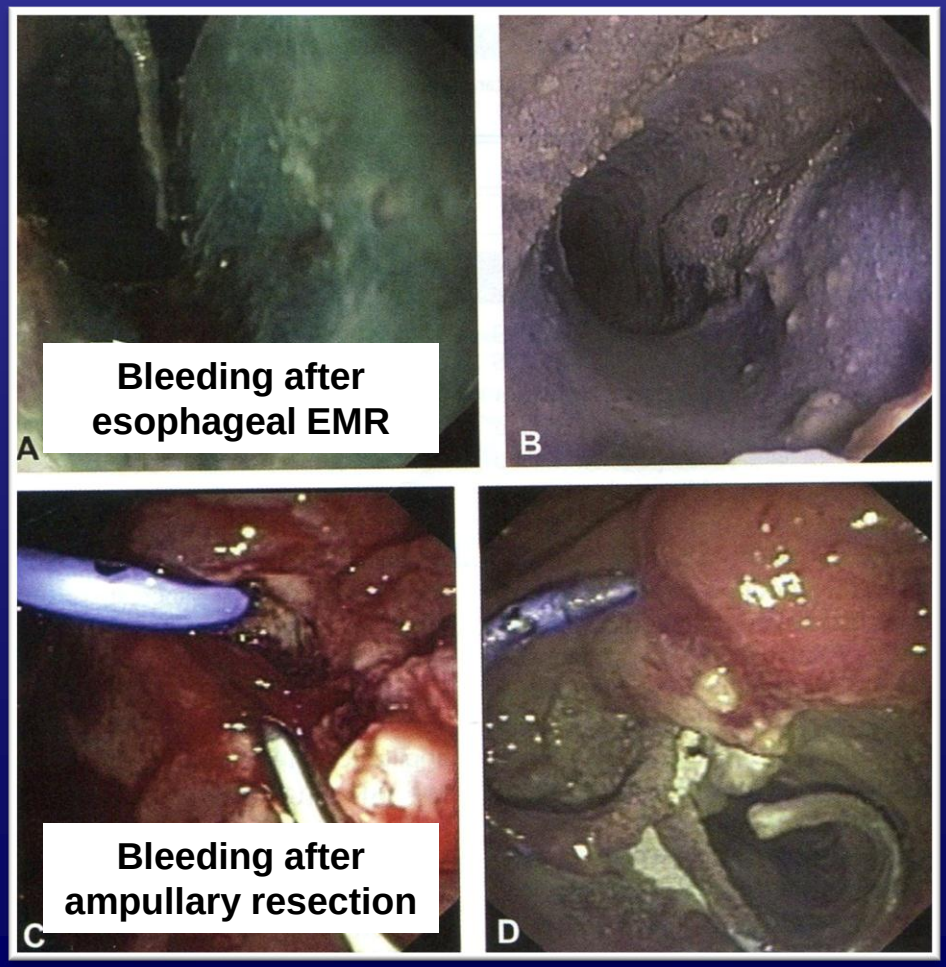
Early experience with a novel hemostatic powder used to treat upper GI bleeding related to malignancies or after therapeutic interventions (with videos)

Sarah Leblanc, MD, Ariane Vienne, MD, Marion Dhooge, MD, Romain Coriat, MD, PhD, Stanislas Chaussade, MD, PhD, Frédéric Prat, MD, PhD

Paris, France

Volume 78, No. 1 : 2013 GASTROINTESTINAL ENDOSCOPY

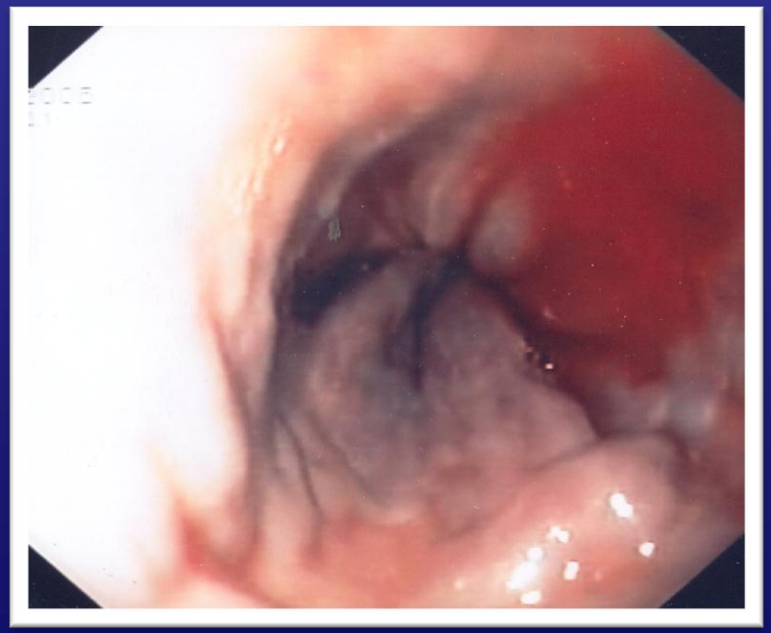
- 12 tumor cases (1 pulsatile, 11 oozing bleeding)
- Hemospray application
- Immediate hemostasis in all 12 pts. after Hemospray (in 8 pts. first line treatment)



Endoscopic treatment of acute variceal hemorrhage using hemostatic powder TC-325: a prospective pilot study

Ibrahim Mostafa et al. UEGW abstract 2013

- Bi-centric prospective trial (Cairo-Brussels)
- Aim: to control acute oe. variceal bleeding
- Patients: 9 cirrhotic with variceal (oe/cardia) bleeding
- ITN narcosis
- Mean hemospray volume: 21 g/ pts.
- Results: Initial hemostasis: all
  No rebleeding, no mortality (15 days)



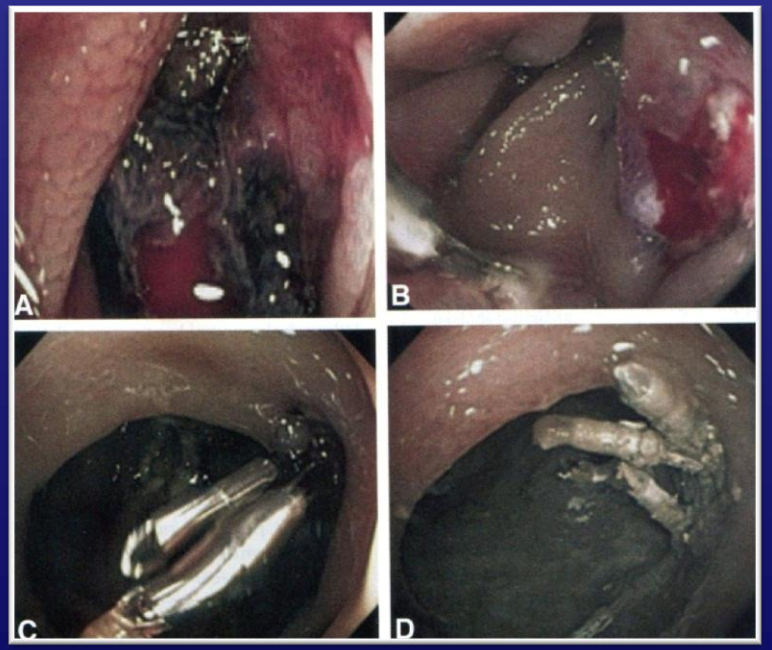
Lower GI hemorrhage controlled with endoscopically applied TC-325 (with videos)

Constantine A. Soulellis, MD,[1] Stephanie Carpentier, MD,[1] Yen-I Chen, MD,[1] Carlo A. Fallone, MD,[1] Alan N. Barkun, MD, MSc[1,2]

Montreal, Quebec, Canada

GASTROINTESTINAL ENDOSCOPY Volume 77, No. 3 : 2013

- 4 cases
- indications:
  - post-polypectomy bleeding
  - post-irradiation proctitis
  - anticoagulant, clopidogrel treatment
- successfull hemostasis in all cases
- CO_2 pressure
  - 12 mmHg (1-2 cm)
  - 55 mmHg! (in contact with the tissue)

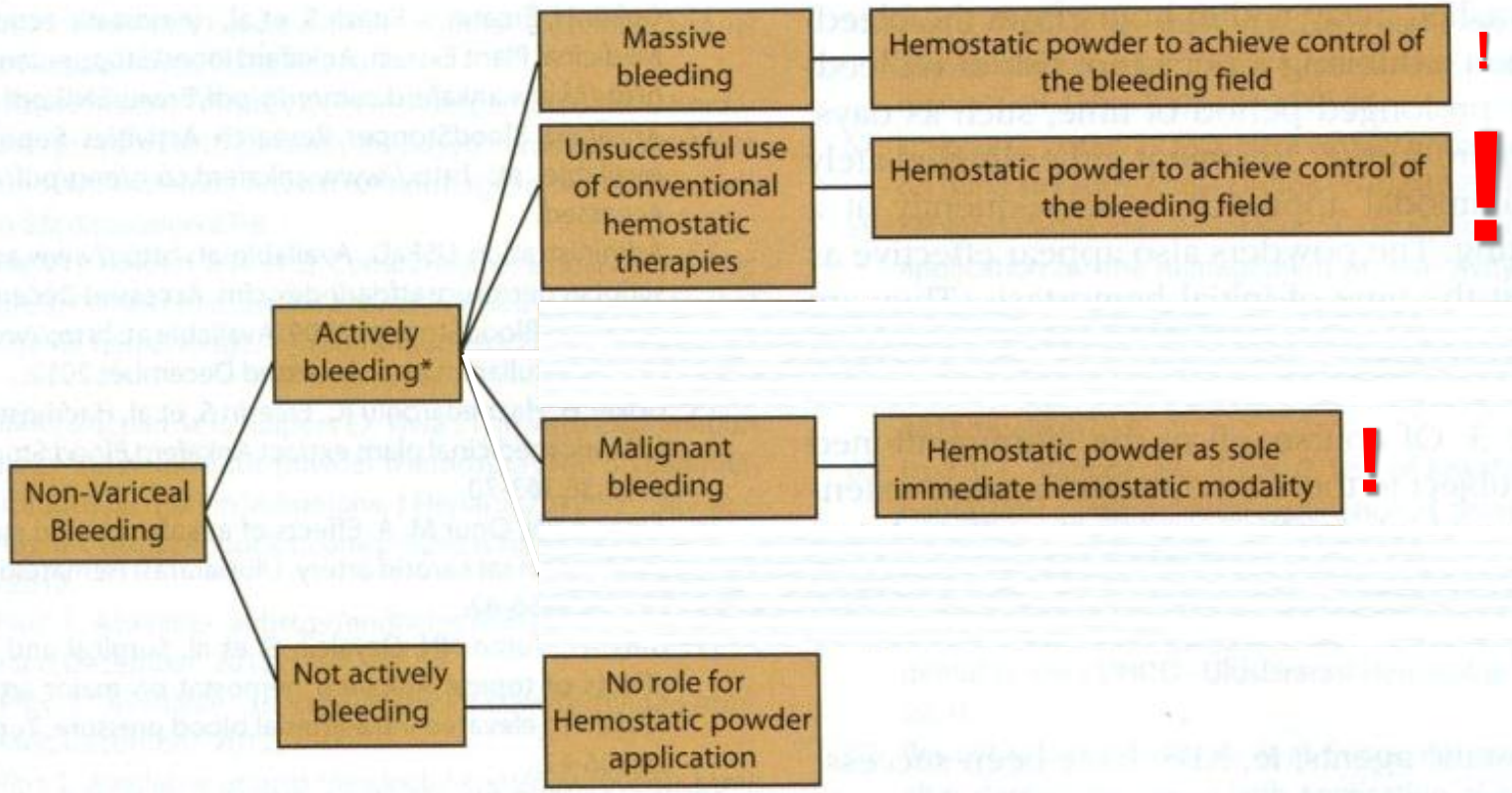


Topical hemostatic agents: a systematic review with particular emphasis on endoscopic application in GI bleeding CME

Alan N. Barkun, MD, MSc,[1,2] Sarvee Moosavi, MD,[1] Myriam Martel, BSc[1]

Montreal, Quebec, Canada

GASTROINTESTINAL ENDOSCOPY Volume 77, No. 5 : 2013



Cook policy: training programs

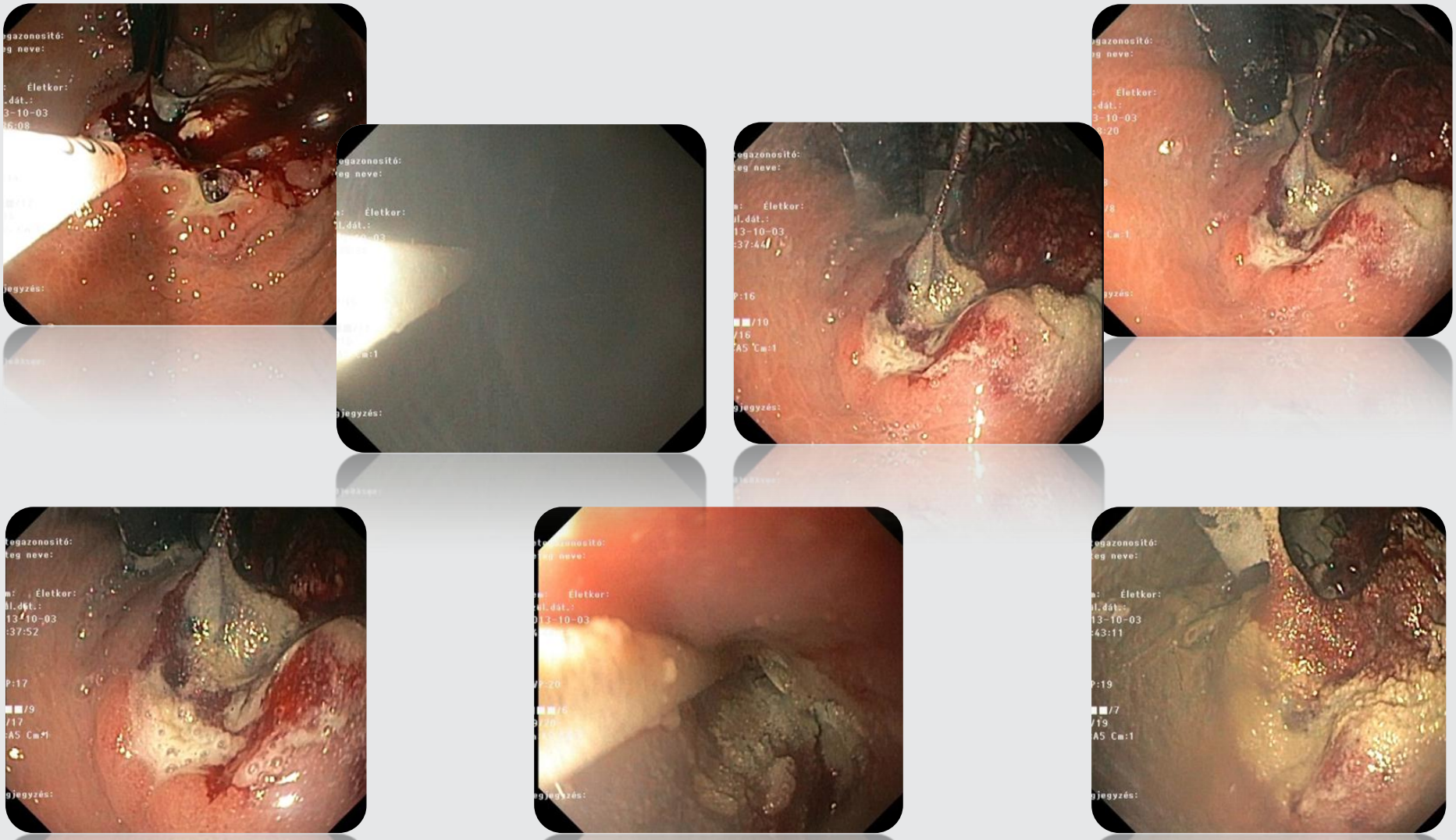
Glasgow

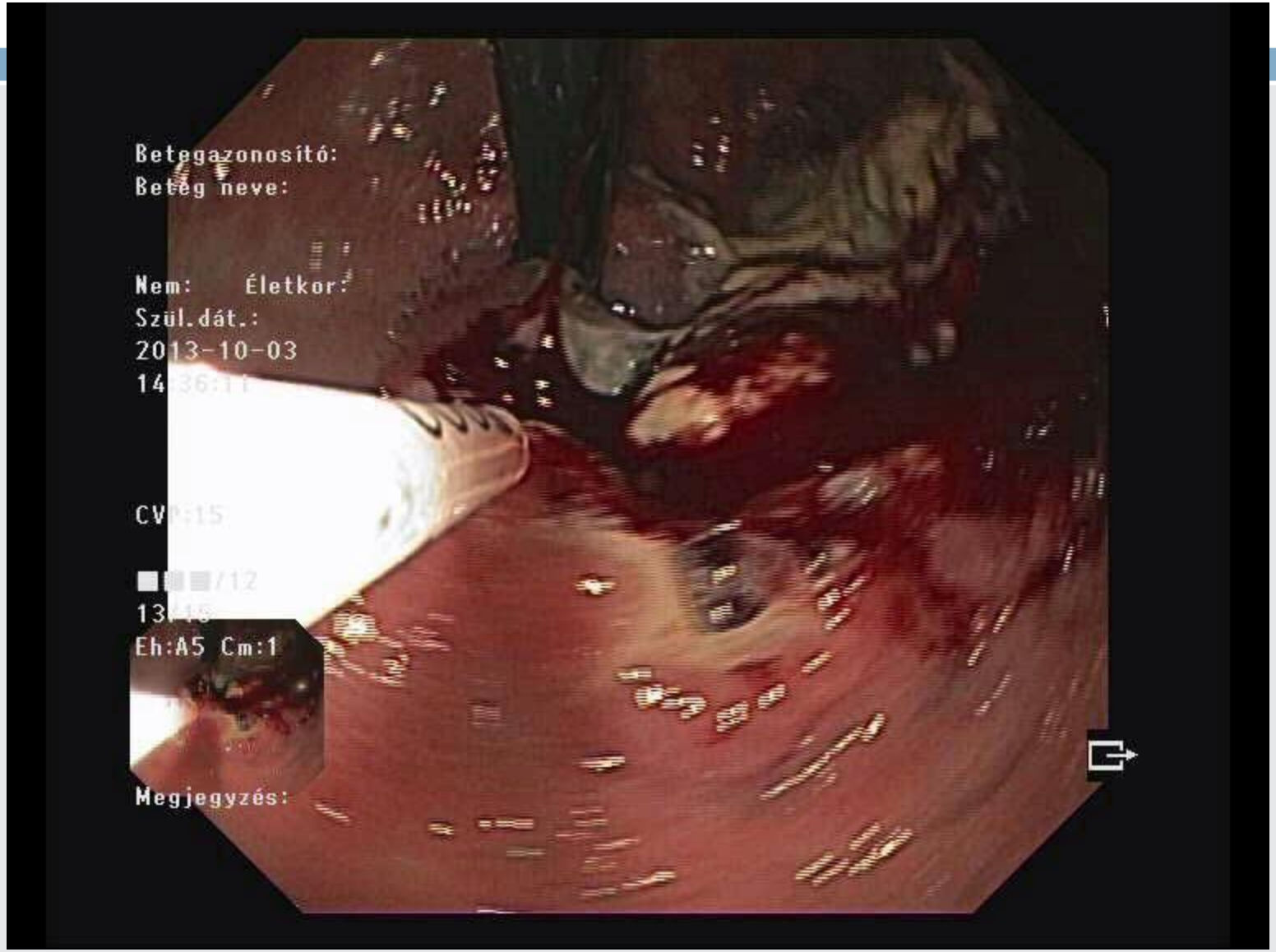
Győr

Győr

Győr

Own results: 75 year old female – subcardial gastric cancer
Endoscopic hemostatic therapy with hemospray

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2013-10-03
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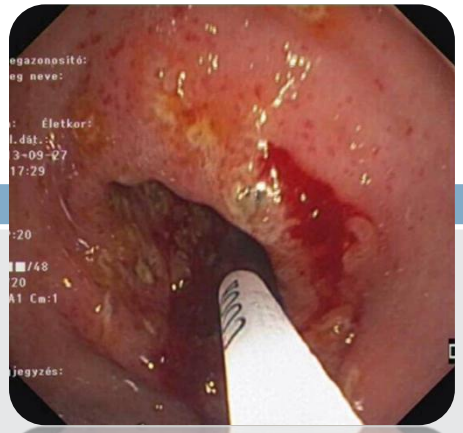

?

- Hemospray first – conventional endoscopic hemostasis afterwords?
- Hemospray – embolism?
- Hemospray in bleeding varices?
- Hemospray and surgery?
- Hemospray and endoscope damage?
- and …?