

# Best of DDW: GI Bleeding

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# Agenda

1. Review the newest tool on the endo cart
2. Rethink our choice of clip
3. Reevaluate a common problem

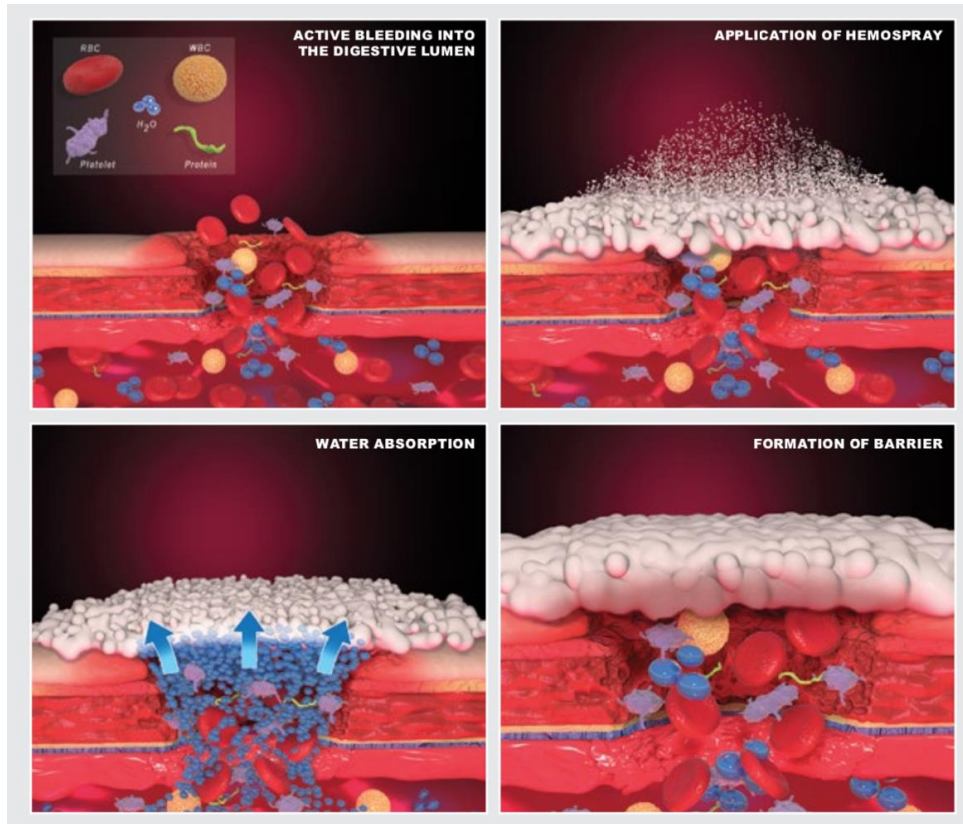
# HEMOSPRAY



# What is Hemospray?

- Inert mineral powder
- FDA approved for non-variceal GI bleeds
- Available in 7F or 10F
- No human, animal or allergen products

# How Does it Work?



- Water absorption
- Cohesive + Adhesive
- Barrier Formation

# How Do You Use It?



# How Do You Use It?



**P**ush the catheter

**A**im the tip

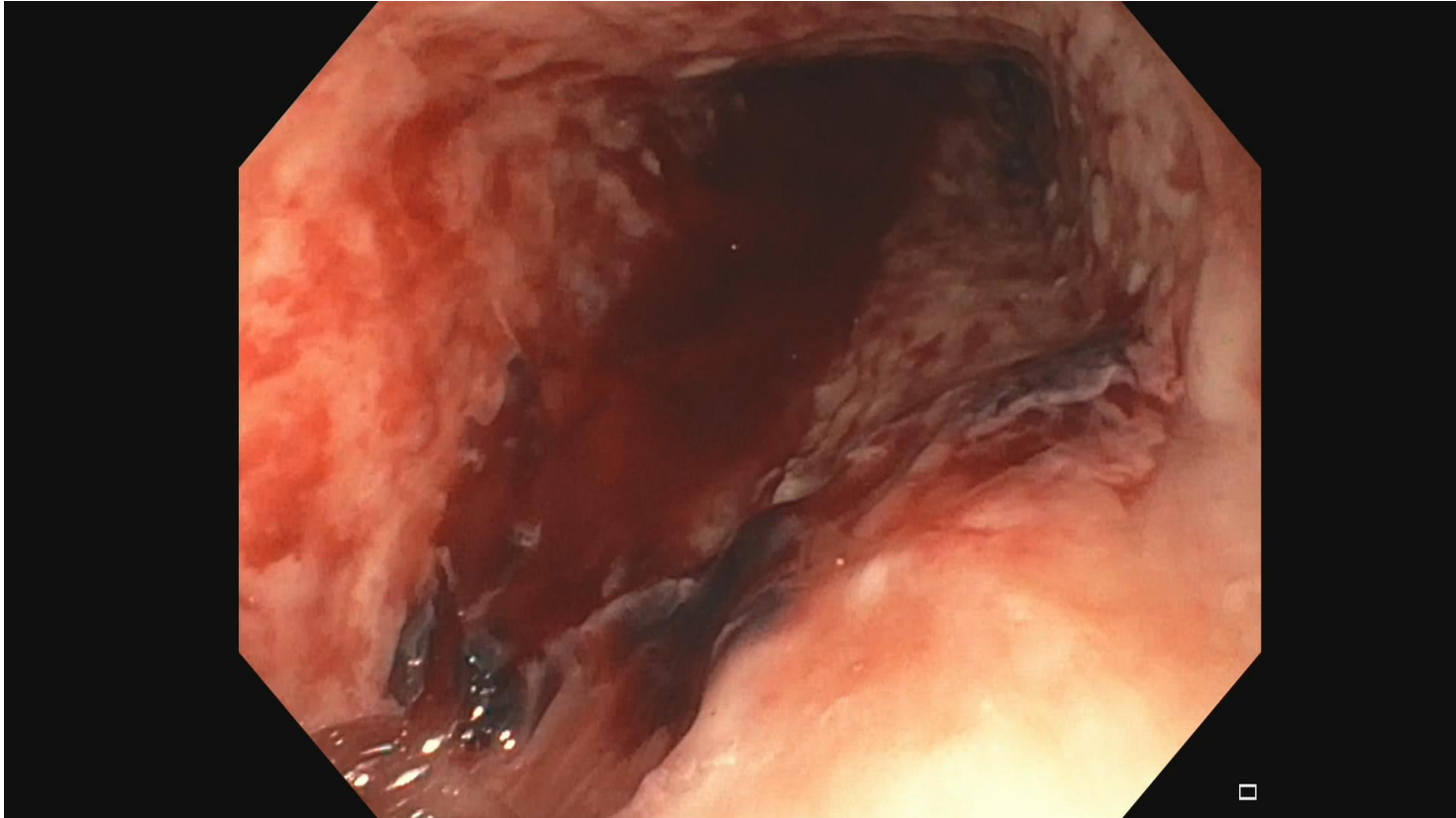
**S**queeze the button

**S**weep the scope

# Challenges

- Advancing the catheter
- White out!





# Outcomes on the Use of Hemospray in Upper GI Bleeds Secondary to Peptic Ulcers: Prospective Multicentre International Hemospray Registry

*Mohamed Hussein<sup>1</sup>, Durayd Alzoubaidi<sup>2</sup>, Miguel Fraile López<sup>3</sup>, Jacobo Ortiz Fernández-Sordo<sup>3</sup>, Krish Rangunath<sup>3</sup>, Radu Rusu<sup>4</sup>, Jason Mark Dunn<sup>4</sup>, Johannes Wilhelm Rey<sup>5</sup>, Shraddha Gulati<sup>6</sup>, Bu Hayee<sup>6</sup>, Selena Dixon<sup>7</sup>, Sulleman Moreea<sup>7</sup>, Duncan Napier<sup>8</sup>, John Anderson<sup>8</sup>, Martin Dahan<sup>9</sup>, Max Hu<sup>10</sup>, Patricia Duarte<sup>10</sup>, Phil Boger<sup>10</sup>, John McGoran<sup>11</sup>, Inder Mainie<sup>11</sup>, Alberto Murino<sup>12</sup>, Sina Jameie-Oskooei<sup>12</sup>, Edward J. Despott<sup>12</sup>, Cora Steinheber<sup>13</sup>, Martin Goetz<sup>13</sup>, Sharmila Subramaniam<sup>14</sup>, Pradeep Bhandari<sup>14</sup>, Laurence Lovat<sup>2</sup>, Emmanuel Coron<sup>9</sup>, Ralf Kiesslich<sup>5</sup>, Rehan Haidry<sup>1,2</sup>*

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# Design

- Prospective
- UK, France, Germany
- Jan 2016 - Sept 2018
- PUD: Esophageal, Gastric & Duodenal
- Hemospray monotherapy, dual (with epi), rescue therapy

# Outcomes

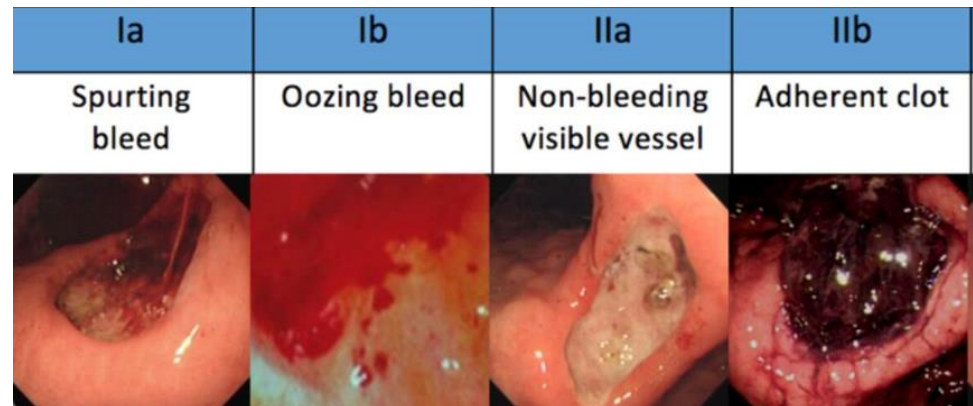
PRIMARY	SECONDARY
<ul style="list-style-type: none"><li>• Hemostasis: cessation of bleeding within 5 minutes</li></ul>	<ul style="list-style-type: none"><li>• Hemostasis by ulcer type &amp; location</li><li>• Rebleeding: following EGD<ul style="list-style-type: none"><li>➤ Drop &gt; 2g/l</li><li>➤ Hematemesis/Melena + hemodynamic instability</li></ul></li><li>• 7 and 30 day all-cause mortality</li></ul>

# Results

- 196 patients
- Hemostasis: 87%
- Duodenal (63%)  
Gastric (22%)  
Esophageal (15%)

	Haemostasis achieved	Re-bleed
Monotherapy (n=51)	45/51 (88%)	8/38 (21%)
Combination therapy (n=96)	85/96 (89%)	13/84 (15%)
Rescue therapy (n=49)	41/49 (84%)	13/46 (28%)

# Results



	Forrest 1a	Forrest 1b	Forrest 2a	Forrest 2b
Haemostasis	31/37 (84%)	93/111 (84%)	23/23 (100%)	19/20 (95%)
Median Blatchford score	13 IQR:11-14	12 IQR: 9-15	12 IQR: 11-14	12 IQR: 11-15
Median Rockall score	7 IQR: 6-8	7 IQR: 6-8	7 IQR: 6-7	7 IQR:6-8
Rockall score 7 predicted re-bleeding rate: 25-40%				
Re-bleeding	8/31 (26%)	19/94 (20%)	2/21 (10%)	4/18 (22%)
Rockall score 7 predicted mortality: 20-30%				
7-day mortality	6/31 (19%)	11/94 (12%)	1/21 (5%)	3/18 (17%)
30-day mortality	9/31 (29%)	21/94 (22%)	3/21 (14%)	5/18 (28%)

# Conclusions

- Hemospray is effective for hemostasis and in PUD.
- Best outcomes in Forrest 2B
  - Hemostasis
  - Rebleeding
  - 7 and 30 day mortality

# OVER-THE-SCOPE CLIPS





# Why Over-the-Scope-Clip Is Potentially More Effective Than Standard Endoscopic Hemostasis as Primary Treatment of Severe Non-Variceal Upper GI Bleeding

*Dennis M. Jensen<sup>2,1,3</sup>, Thomas O. Kovacs<sup>2,1</sup>, Kevin A. Ghassemi<sup>2,1</sup>, Marc Kaneshiro<sup>2,1</sup>, Gareth Dulai<sup>2,1</sup>, Gustavo A. Machicado<sup>2,1</sup>*

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# Design

- Prospective
- USA
- Severe non-variceal upper GI bleeding
- Intervention: Over-the-Scope Clip (OTSC) + Doppler Endoscopic Probe (DEP)
- Results were compared to 2 prior studies using OTSC, standard clips and DEP

# Outcomes

PRIMARY	SECONDARY
<ul style="list-style-type: none"><li>• Obliteration of arterial blood flow (ABF)</li></ul>	<ul style="list-style-type: none"><li>• 30 day rebleeding</li></ul>

# Results: OTSC Patients

Lesion	Total (n=20)
Duodenal Ulcer	12 (60%)
Gastric Ulcer	7 (35%)
Dieulafoy	1 (5%)

# Results: Residual ABF

Placement	Residual ABF
OTSC placement alone	1/20 (5%)
OTSC + DEP	0/63 (0%)
Standard hemoclip alone	23/88 (26%)

# Results: 30 day Rebleeding

Placement	Rebleeding
OTSC placement alone	1/20 (5%)
OTSC + DEP	0/63 (0%)
Standard hemoclip alone	20/76 (23.6%)

# Conclusions

- OTSC is more effective than standard endoscopic hemostasis at obliterating blood flow in severe NVUGIB.
- Residual ABF correlates to higher rebleeding.
- OTSC has the potential to reduce rebleeding over standard hemoclips.

# PROPHYLACTIC HEMOCLIPPING





# A Prospective, Randomized Trial of Prophylactic Hemoclipping for Preventing Delayed Post-Polypectomy Bleeding in Patients with Large Colonic Polyps

*Linda A. Feagins<sup>2,1</sup>, Andrew David Smith<sup>2</sup>, Daniel Kim<sup>2</sup>, Akeel Halai<sup>2</sup>, Suneetha Duttala<sup>2</sup>, Benjamin Chebaa<sup>2</sup>, Tisha Lunsford<sup>3,4</sup>, John A. Vizueté<sup>4</sup>, Miriam Mara<sup>3</sup>, Ranjan Mascarenhas<sup>5</sup>, Rabia Meghani<sup>5</sup>, Leon Kundrotas<sup>3,4</sup>, Kerry Brandt Dunbar<sup>2,1</sup>, Daisha J. Cipher<sup>6</sup>, William V. Harford<sup>2,1</sup>, Stuart J. Spechler<sup>7</sup>*

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# Design

- Prospective
- USA – Four VA Centers
- Random, stratified by antiplatelet & anticoagulant
- Prophylactic clipping or not for polyp  $\geq 1$  cm
- Follow-up at 7 and 30 days for delayed bleeding

# Outcomes

PRIMARY	SECONDARY
Important delayed bleeding <ul style="list-style-type: none"><li>• Hg drop <math>\geq</math> 2g/dL</li><li>• Hemodynamic instability</li><li>• Repeat endoscopic evaluation</li><li>• Angiography</li><li>• Surgery</li></ul>	Unimportant delayed bleeding

# Results: Demographics

	Hemoclip n=530	No hemoclip n=520	p-value
Average age	64.5	64.0	.39
Male sex (% total)	516 (97.4%)	499 (96.0%)	.21
Race			
White	370 (69.8%)	375 (72.1%)	.41
Black	117 (22.1%)	110 (21.2%)	.72
Hispanic	42 (7.9%)	31 (6.0%)	.21
Comorbid disease			
Coronary artery disease	106 (20%)	106 (20.4%)	.88
Diabetes	214 (40.4%)	176 (33.8%)	.03
Atrial fibrillation	52 (9.8%)	39 (7.5%)	.18
Lung disease	96 (18.1%)	132 (25.4%)	<.01
Renal disease	57 (10.8%)	45 (8.7%)	.25
Concomitant Medication Use			
Aspirin	256 (48.3%)	241 (46.3%)	.53
NSAIDs	67 (12.6%)	66 (12.7%)	.98
Thienopyridines	30 (5.7%)	30 (5.8%)	.94
warfarin	36 (6.8%)	35 (6.7%)	.97
Direct-acting oral anticoagulants	9 (1.7%)	8 (1.5%)	.84
Heparin	14 (2.6%)	13 (2.5%)	.89

# Results: Polyps

Polyp morphology ( $\geq 10\text{mm}$ )			
Sessile	472 (69.4%)	493 (69.8%)	--
Pedunculated	208 (30.6%)	213 (30.2%)	.87
Removal Technique ( $\geq 10\text{mm}$ )			
Hot snare	660 (97.1%)	682 (96.6%)	.63
Cold snare	16 (2.4%)	18 (2.5%)	.81
Cold forceps	4 (0.6%)	6 (0.8%)	.57
Piecemeal resection	151 (22.2%)	172 (24.4%)	.34
Fulguration	93 (13.7%)	98 (13.9%)	.91
Lift before polypectomy	219 (32.2%)	231 (32.7%)	.84

# Results: Important Delayed PPB

	Hemoclip n=530	No hemoclip n=520	p-value
Unimportant delayed bleed	86 (16.2%)	71 (13.7%)	.24
Important delayed bleed	12 (2.3%)	14 (2.7%)	.66
Antiplatelet/anticoagulant use			
Aspirin users	9/256 (3.5%)	9/241 (3.7%)	.90
NSAID users	0/67 (0%)	2/66 (3.0%)	.15
Thienopyridine users	3/30 (10%)	4/30 (13.3%)	.69
Warfarin (all users)	1/36 (2.8%)	4/35 (11.4%)	.66
Warfarin without bridging	0/22 (0%)	1/23 (4.3%)	.32
Warfarin with bridging	1/14 (7.1%)	3/12 (25%)	.27
Direct-acting oral anticoagulant users	0/9 (0%)	0/8 (0%)	--
Polyp morphology*			
pedunculated	5/208 (2.4%)	2/213 (0.9%)	.26
sessile	12/472 (2.5%)	16/493 (3.2%)	.52
Polyp size ≥ 20mm*	4/101 (4.0%)	6/121 (5.0%)	.72
Polyp removal technique*			
Hot snare	17/660 (2.6%)	18/682 (2.6%)	.94
Cold snare	0/16 (0%)	0/18 (0%)	--
Cold forceps	0/4 (0%)	0/6 (0%)	--
Piecemeal	5/151 (3.3%)	10/172 (5.8%)	.29
Fulguration	4/93 (4.3%)	5/98 (5.1%)	.79

# Conclusions

- Remember the option of Hemospray in GI bleeding.
- Consider all options when clipping.
- Contemplate whether prophylactic clipping is really necessary.

# Questions?

