Outcomes in Non-Variceal Upper Gastrointestinal Bleeding with Use of the Endoscopic Over-the-Scope-Clip Device Deployed by General Gastroenterologists and Trainees: Experience from a Large Academic Medical Center

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Introduction

- Non-variceal upper gastrointestinal bleeding (NVUGIB) is a common cause of morbidity and mortality among inpatients, and can be associated with up to a 30% incidence of rebleeding.
- The over-the-scope-clip (OTSC) is an effective and safe tool to achieve hemostasis in NVUGIB, however, remains underutilized in the general gastroenterology (GI) practice.
- Here we evaluate outcomes in hemostasis with use of the OTSC by general gastroenterologists and trainees.

Methods

- Retrospective analysis of patients admitted at a large academic medical center for NVUGIB for whom the OTSC was used to achieve hemostasis.
- Procedures were performed between July 2019 and May 2022 by general gastroenterologist and trainees.
- Primary outcome was 30-day rebleeding rate, defined as clinical evidence of bleeding plus need for repeat endoscopy or other therapeutic intervention at the site of initial treatment.

Results

- We identified 52 patients who underwent use of the OTSC for hemostasis in management of NVUGIB.
- We observed a 30-day rebleeding rate of 13.5% (n=7)
- Of patients undergoing OTSC use for primary vs secondary hemostasis, the rebleeding rate was 15.6% (n = 5) and 10% (n = 2), respectively.
- Patients who rebleed had higher readmission rates (71.4% vs 13.3%, $p < 0.05$).

Table 1: Characteristics of 52 patients with use of the OTSC for hemostasis by general gastroenterologists and trainees

	Patients N = 52	Hemostasis N=45 (86.5%)	Rebleed N=7 (13.5%)	P-value
Age, mean (years)	72.4	70.4	79	NS
Gender				NS
Female	18 (34.6%)	17 (37.8%)	1(14.3%)	
Male	34 (65.4%)	28 (62.2%)	6 (85.7%)	
Race				NS
White	28 (53.9%)	25 (55.6%)	3 (42.9%)	
Black	8 (15.4%)	7 (15.6%)	1 (14.3%)	
Asian	9 (17.3%)	8 (17.8%)	1 (14.3%)	
Hispanic	6 (11.5%)	4 (8.9%)	2 (28.6%)	
Other	1 (1.9%)	1 (2.2%)	0	
Medications (prior to admission)				NS
Anticoagulation use	16 (30.8%)	13 (28.9%)	3 (42.9%)	
Antiplatelet use	27 (51.9%)	24 (53.3%)	3 (42.9%)	
PPI use	9 (17.3%)	9 (20%)	0	
Labs (Mean Values)				NS
Admission Hemoglobin (g/dL)	9.3	9.4	9.1	
Hemoglobin Nadir (g/dL)	6.6	6.7	6.1	
Platelets	256	259	237	

Table 2: Endoscopic findings and outcomes with use of the OTSC

	Patients N = 52	Hemostasis N=45 (86.5%)	Rebleed N=7 (13.5%)	P-value
Ulcer Location & Features				NS
Stomach	13 (25.0%)	13 (28.9%)	0	
Duodenum	36 (69.2%)	29 (64.4%)	7 (100%)	
GJ anastomosis	2 (3.9%)	2 (4.4%)	0	
GE junction	1 (1.9%)	1 (2.2%)	0	
Large Ulcer ≥ 10 mm	43 (82.7%)	37 (82.2%)	6 (85.7%)	NS
Indication for Index EGD				NS
Primary hemostasis	32 (61.5%)	27 (60.0%)	5 (71.4%)	
Secondary hemostasis/rebleeding	20 (38.5%)	18 (40.0%)	2 (28.6%)	
Forrest Classification of Ulcer				NS
Forrest Ia	0 (0%)	0	0	
Forrest Ib	16 (30.7%)	12 (26.7%)	4 (57.1%)	
Forrest IIa	25 (48.1%)	22 (48.9%)	3 (42.9%)	
Forrest IIb	8 (15.4%)	8 (17.8%)	0	
Forrest IIc	1 (1.9%)	1 (2.2%)	0	
Forrest III	2 (3.9%)	2 (4.4%)	0	
Outcomes				
Readmission (within 30 days of EGD)	11 (21.2%)	6 (13.3%)	5 (71.4%)	P<0.05
Mean LOS, days	15.4	14.4	21.7	NS

Conclusion

- The OTSC is a highly effective tool in management of NVUGIB, specifically in cases of rebleeding, severe hemorrhage, and large ulcers not amenable to standard treatment.
- The OTSC can safely and successfully be deployed by general gastroenterologists and trainees.
- Education and competency in OTSC should be encouraged in physicians who treat NVUGIB.