



## DOES URGENT BALLOON ASSISTED ENTEROSCOPY IN OVERT OBSCURE GASTROINTESTINAL BLEEDING IMPACTS REBLEEDING AND MORTALITY?

**João Carlos Silva**, Rolando Pinho, Ana Ponte, Adélia Rodrigues, Jaime Rodrigues, Ana Catarina Gomes, Edgar Afecto, João Correia, Manuela Estevinho, João Carvalho.  
Centro Hospitalar Vila Nova de Gaia Espinho

### BACKGROUND & AIMS

The diagnostic yield (DY) and therapeutic yield (TY) of balloon-assisted enteroscopy (BAE) in overt obscure gastrointestinal bleeding (OGIB) is higher in the first 72h. This study aimed to evaluate if this higher DY and TY after urgent BAE impacted the rebleeding rate, time to rebleed and short-term mortality.

### METHODS

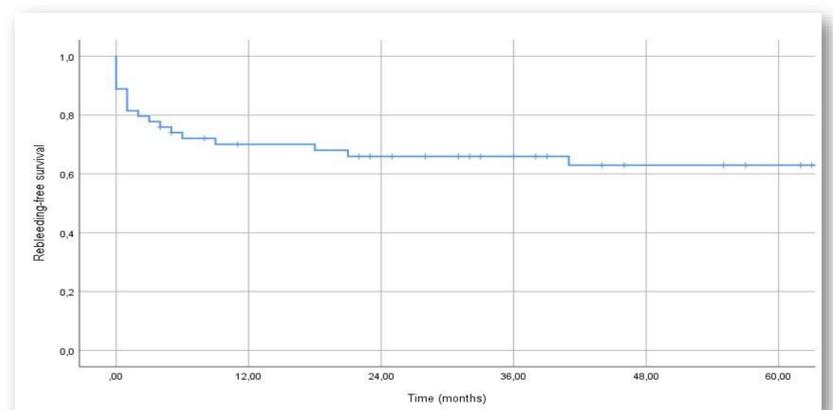
- Retrospective cohort-study, which consecutively included all patients submitted to BAE for overt OGIB, between 2010-2019.
- Patients were distributed in 2 groups: (1) Urgent BAE; (2) Non-urgent BAE.
- Rebleeding was defined as an Hb drop >2 g/dL, need for transfusional support or presence of melena/hematochezia.

### RESULTS

**Table 1 – Patient demographics and OGIB clinical features.**

CHARACTERISTICS	TOTAL (n=54)	URGENT BAE (n=17)	NON-URGENT BAE (n=37)	p value
Age, years ( $\mu \pm SD$ )	68.6 $\pm$ 11.7	68.9 $\pm$ 11.1	68.4 $\pm$ 12.1	0.9
Male, n (%)	27 (50.0)	10 (58.8)	17 (45.9)	0.4
Overt OGIB, n (%)	54 (100)			
- Melena, n (%)	38 (70.4)	13 (76.5)	25 (67.6)	0.5
- Hematochezia, n (%)	16 (29.6)	3 (17.6)	13 (35.1)	0.2
Hemoglobin, g/dl ( $\mu \pm SD$ )	8.1 $\pm$ 2.1	8.4 $\pm$ 2.3	8.0 $\pm$ 2.1	0.5
Prior CE, n (%)	47 (87.0)	16 (94.1)	31 (83.8)	0.4
Active bleeding in CE, n (%)	35 (74.5)	15 (93.8)	20 (64.5)	0.04
Route of insertion of BAE				
Anterograde, n (%)	36 (66.7)	13 (76.5)	23 (62.2)	0.4
Active bleeding in BAE, n (%)	17 (31.5)	17 (100)	0 (0)	<0.01

OGIB, Obscure Gastrointestinal bleeding; CE, Capsule Endoscopy; BAE, Balloon assisted enteroscopy.  $\mu$ , mean; SD, standard deviation. p<0.05 meaning statistical significance.



**Figure 1:** Kaplan–Meier curve showing the overall rebleeding-free rate.

**Table 2 – Diagnostic and therapeutic yield of BAE.**

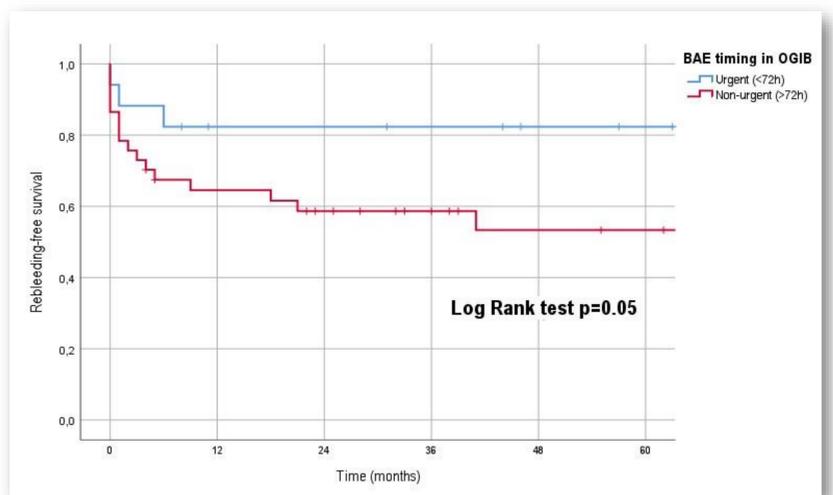
CHARACTERISTICS	TOTAL (n=54)	URGENT BAE <sup>1</sup> OVERT OGIB (n=17)	NON-URGENT BAE OVERT OGIB (n=37)	p value
Diagnostic yield, n (%)	37 (68.5)	15 (88.2)	22 (59.5)	0.03
Therapeutic yield, n (%)	33 (61.1)	16 (94.1)	17 (45.9)	0.001

<sup>1</sup>Enteroscopy performed within the first 72 hours of clinical presentation. OGIB, Obscure Gastrointestinal bleeding; BAE, Balloon assisted enteroscopy.  $\mu$ , mean; SD, standard deviation. p<0.05 meaning statistical significance.

**Table 3 – Long-term outcomes of BAE.**

OVERT OGIB	TOTAL (n=54)	URGENT BAE <sup>1</sup> (n=17)	NON-URGENT BAE (n=37)	p value
Rebleeding rate, n (%)	20 (37.0)	3 (17.6)	17 (45.9)	0.04
6-months <sup>2</sup> , (%)	27.9	17.6	32.5	0.05
36-months <sup>2</sup> , (%)	34.0	17.6	41.3	
Mortality, n(%)	2 (3.7)	0 (0)	2 (5.4)	0.5

<sup>1</sup>Enteroscopy performed within the first 72 hours of clinical presentation. <sup>2</sup>Kaplan–Meier survival curves were used to estimate the time to rebleed and log-rank test was used to compare rebleeding across groups. p<0.05 meaning statistical significance. OGIB, Obscure Gastrointestinal bleeding; BAE, Balloon assisted enteroscopy.



**Figure 2:** Kaplan–Meier curves according to BAE timing for OGIB.

### CONCLUSION

In the setting of OGIB, urgent BAE was associated with better long-term outcomes, namely rebleeding and short-term mortality. In fact, our study suggests that urgent BAE might be associated with a lower and later rebleeding. Furthermore, the DY and TY were higher when BAE is performed in the first 72h after clinical presentation of overt-OGIB.

### REFERENCES

1. Pinto-Pais, T., et al., *Emergency single-balloon enteroscopy in overt obscure gastrointestinal bleeding: Efficacy and safety*. United European Gastroenterol J, 2014. 2(6): p. 490-6.
2. Rodrigues, J.P., et al., *Diagnostic and therapeutic yields of urgent balloon-assisted enteroscopy in overt obscure gastrointestinal bleeding*. Eur J Gastroenterol Hepatol, 2018. 30(11): p. 1304-1308.
3. Pinho, R., et al., *Long-term rebleeding risk following endoscopic therapy of small-bowel vascular lesions with device-assisted enteroscopy*. Eur J Gastroenterol Hepatol, 2016. 28(4): p. 479-85.
4. Hashimoto, R., M. Nakahori, and T. Matsuda, *Impact of Urgent Double-Balloon Enteroscopy on the Short-Term and Long-Term Outcomes in Overt Small Bowel Bleeding*. Dig Dis Sci, 2019. 64(10): p. 2933-2938