

### Esophageal Balloon Tamponade Versus Esophageal Stent in Controlling Acute Refractory Variceal Bleeding: A Multicenter Randomized, Controlled Trial

Escorsell, Àngels, et al.

*Hepatology*, 2016 Jun;63(6):1957-67. doi: 10.1002/hep.28360. Epub 2016 Jan 14.

...28 patients were finally included - Esophageal Stent (n = 13), Balloon Tamponade (n = 15)...esophageal metal stents are more effective than balloon tamponade for the temporary control of massive or refractory esophageal AVB in patients with cirrhosis... The results of our multicenter randomized, controlled trial (RCT) show that the use of self-expandable esophageal stents provides a better balance of benefits and harms than balloon tamponade...

### SX-Ella Stent Danis Effectively Controls Refractory Variceal Bleed in Patients with Acute-on-Chronic Liver Failure

Maiwall, R., Jamwal, K.D., Bhardwaj, A. et al.

*Dig Dis Sci* 63, 493–501 (2018). <https://doi.org/10.1007/s10620-017-4686-8>.

...Acute-on-chronic liver failure patients (n = 88, mean age 47.3 ± 10.9 years) with refractory variceal bleeds received either **Danis stent (Gr. A, n = 35)** or continued with **repeat endotherapy and vasoactive drug (Gr.B, n = 53)**. **Control of initial bleeding was significantly more in the Danis stent group** as compared to controls in both pre-match (89 vs. 37%; p < 0.001) and PRS-matched cohorts (73 vs. 32%; 0.007). Further, **bleed-related death was also significantly lower in Danis group** as compared to controls in both pre-match (14 vs. 64%; p = 0.001) and PRS-matched cohorts (6 vs. 56%; p = 0.001). In a multivariate competing risk Cox model, patients who underwent DE stenting had reduced mortality in both pre-match (p = 0.04, HR 0.36, 95% CI 0.13–0.96) and PRS-matched cohorts (p < 0.001, HR 0.21, 95% CI 0.08–0.51). **These findings highlight that Danis stent could be considered as the first-line management option for patients with ACLF with refractory variceal bleeds wherein TIPS is contraindicated.**

### A self-expanding metal stent for complicated variceal hemorrhage: experience at a single center

Wright G, Lewis H, Hogan B et al.

*Gastrointest Endosc.* 2010 Jan;71(1):71-8.

...10 patients with variceal hemorrhage with contraindications to TIPS insertion or BT ... Stent insertion was successful in 9 of 10 patients ... Insertion of the SX-Ella DANIS stent in patients with refractory variceal bleeding or complications of previous therapy is effective for the control of bleeding ... In selected patients, SX-Ella DANIS stent insertion offers an alternative to other methods of salvage such as BT and TIPS and could be considered a substitute for BT after a prospective trial...

### Treatment of Esophageal Variceal Hemorrhage with Self-Expanding Metal Stents as a Rescue Maneuver in a Swiss Multicentric Cohort

Fierz FC, Kistler W, Stenz V et al.

*Case Rep Gastroenterol.* 2013;7:97–105.

...The use of variceal stenting in 7 patients with a total of 9 bleeding episodes in three different Swiss hospitals ... insertion of the stent led to immediate bleeding control in 89% (8/9) of patients. In all of these 8 cases no re-bleeding was observed subsequently while the stent remained in situ ... thanks to their safety and easy handling, SEMS are an interesting alternative to balloon tamponade as a bridging intervention to definitive therapy including the pre-hospital setting ...

### Self-Expanding Metal Stent (SEMS): an innovative rescue therapy for refractory acute variceal bleeding

Kinesh Changela, Mel A. Ona, Sury Anand, Sushil Duddempudi

Department of Gastroenterology, The Brooklyn Hospital Center, New York, USA. 2014.

At present, **103 cases have been described in the literature**. Studies have reported **97.08% technical success** rates in deployment of SEMS. Most of the stents were intact for 4–14 days with no major complications reported. Stent extraction had a success rate of 100%. **Successful hemostasis was achieved in 96% of cases** with only 3.12% found to have rebleeding after placement of SEMS. Stent migration, which was the most common complication, was observed in 21 % of patients.

### Acute management of Refractory Variceal Bleeding in Liver Cirrhosis by Self-Expanding Metal Stents

Dechêne A, El Fouly AH, Bechmann LP et al.

Digestion. 2012;85(3):185-91.

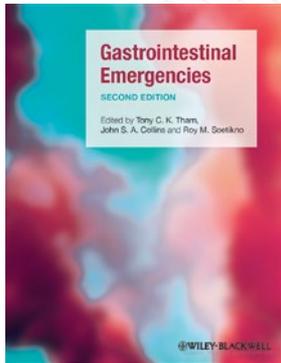
...8 patients in whom endoscopic variceal ligation failed to control variceal hemorrhage were treated ... The application of SEMS in esophageal hemorrhage showed a complete success in achieving hemostasis even after failed endoscopic variceal ligation...

### Results of a new method to stop acute bleeding from esophageal varices: implantation of a self-expanding stent

Zehetner J, Shamiyeh A, Wayand W et al.

Surg Endosc. 2008 Oct;22(10):2149-52.

...34 patients with ongoing bleeding from esophageal varices ... For all 34 patients, the implantation of the esophageal stent succeeded in stopping ongoing bleeding ... No stent-related complications occurred during or after stent implantation ... No bleeding recurrence was observed during the stent implantation ... For all the patients, the stent could be extracted by endoscopy without any complications using an extractor ... No rebleeding occurred...



### Gastrointestinal Emergencies

THAM, Tony C, John S COLLINS, Roy SOETIKNO and Tony C THAM. Gastrointestinal emergencies.

2nd ed. Hoboken, NJ: Wiley-Blackwell Pub., 2009, viii, 221 p., [4] p. ISBN 978-1-4051-4634-0.

Chapter 24 Variceal Hemorrhage. p. 141–148. ISBN 978-1-4051-4634-0.

On pages 141–148, authors describe the methods for management of acute or refractory variceal bleeding with the following description:

“...In such cases, the use of newly designed removable covered self-expandable metal stent (SX-Ella Danis stent, Ella-CS s.r.o. Czech Republic) has been recommended, as it is easier to insert and does not obstruct the esophagus...”

### Oxford Handbook of Acute Medicine

RAMRAKHA, Punit S, Kevin P MOORE and Amir H SAM. Oxford handbook of acute medicine. 3rd ed.

New York: Oxford University Press, xxxvii, 869 p., [4] p. of plates. Oxford handbooks. ISBN 01-992-3092-7. Chapter 3 Gastroenterological emergencies. p. 232–233. ISBN 01-992-3092-7.

On pages 232–233, you will find a synoptic chart listing the key points of management of variceal bleeding. In the point where the techniques for temporary stabilisation of the patient with uncontrolled variceal bleeding are mentioned, there is also stated that:

“...Some centres are now using DANIS stents...”

The Sengstaken-Blakemore or Linton tube can only be used in settings where experienced staff is available, whereas the use of the Danis stent is easy for the staff and significantly safer for the patient.

### Therapie-Handbuch Innere Medizin

DOMSCHKE, W et al. Therapie-Handbuch Innere Medizin. Sonderedition 2011/2012. München: Elsevier URBAN&FISCHER. ISBN 978-3-437-22107-1.

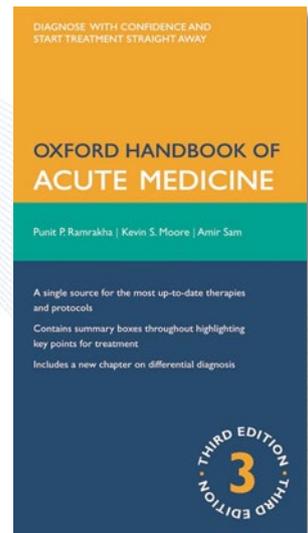
On pages 479–485, you can find the description of the management of esophageal variceal bleeding. The balloon-tamponade is also mentioned in the section describing the management of refractory bleeding. All the necessary precautions are listed along with the risks which the use of the tamponade brings. Then the authors state that:

“...Small studies show that more preferable possibility can be used. Endoscopically introduced fully covered removable stent can be used to compress the bleeding varices (DANIS-Stent)...”

### Esophageal stenting for benign and malignant disease: European Society of Gastrointestinal Endoscopy (ESGE) Clinical Guideline

Spaander M. C. W., Baron T. H., Siersema P. D.

ESGE recommends considering placement of a SEMS for the treatment of esophageal variceal bleeding refractory to medical, endoscopic, and/or radiological therapy, or as initial therapy for patients with massive bleeding (strong recommendation, moderate quality evidence).



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