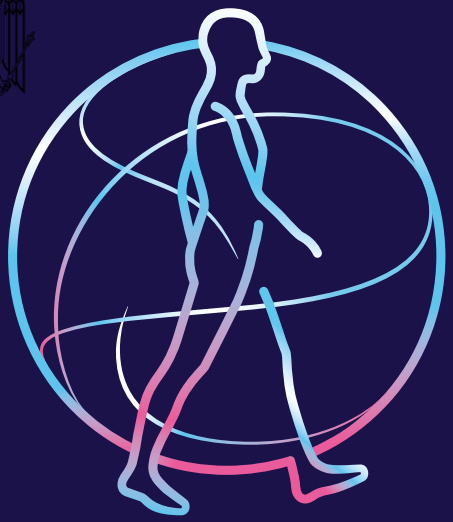
Medtronic

Clinical paper review
for Health care professionals

"Trans Arterial Embolization of Non-variceal Upper Gastrointestinal Bleeding: Is the Use of Ethylene–Vinyl Alcohol Copolymer as Safe as Coils?"

Tipaldi MA et al. 2018



Highlights:

1. Single center, retrospective study
2. 71 patients
3. Embolization with either coils or Onyx™
4. 1-year endoscopic follow-up for 44/71 patients
5. Onyx™ is comparable to coils in terms of technical and clinical success, and survival rate

Background

- Non-variceal upper gastrointestinal bleeding (UGIB) is an emergency condition with significant morbidity and mortality.
- The first line approach is endoscopic management; however, when that is not possible, endovascular embolization may offer an effective alternative for these high-risk patients.
- The majority of operators perform embolization using coils or micro coils, which present diverse limitations: coils are not always effective in patients effected by coagulopathy and cannot always reach very small vessels.
- Liquid embolics can be injected via very small calibre microcatheters to reach very small vessels and can stop the flow independently of the coagulation function. Nonetheless, a number of interventional radiologists are still reluctant in using liquid embolics because they consider this as a high-risk approach.

Study objective

To assess the safety of Onyx™ Liquid Embolic System (LES) over coils in the treatment of UGIB.

Materials and methods

Study design

- This is a single-center retrospective study, reviewing angiographic investigations procedures performed for gastrointestinal tract bleeding between January 2011 and January 2017.
- Inclusion criteria were:
  a. Upper gastrointestinal tract contrast intraluminal extravasation, detected in both computed tomography (CT) and digital subtraction angiography (DSA)
  b. Embolization procedure performed using exclusively either coils or Onyx™
- 71 patients met the inclusion criteria and were included in the study. Forty-one patients were exclusively treated with coils (Group A) and 30 patients were exclusively treated with Onyx™ (Group B).

Procedure

Angiograms were performed via a transfemoral approach with retrograde puncture of the right or left common femoral artery. Super selective catheterization of the target artery with the use of a micro catheter compatible with dimethyl sulfoxide injection was used to perform the treatment in all cases.

Patients of group A were treated with either pushable (n=32) 0.018–0.035-inch (Helical or VortX, Boston Scientific Inc. Natick, Massachusetts, USA) or detachable (n=9) (Ruby, Penumbra Inc. Alameda, California, USA) coils; patients of Group B (n=30) were treated with Ethylene-vinyl alcohol copolymer 6% (Onyx™ 18 LES, Medtronic, Irvine, CA, USA).

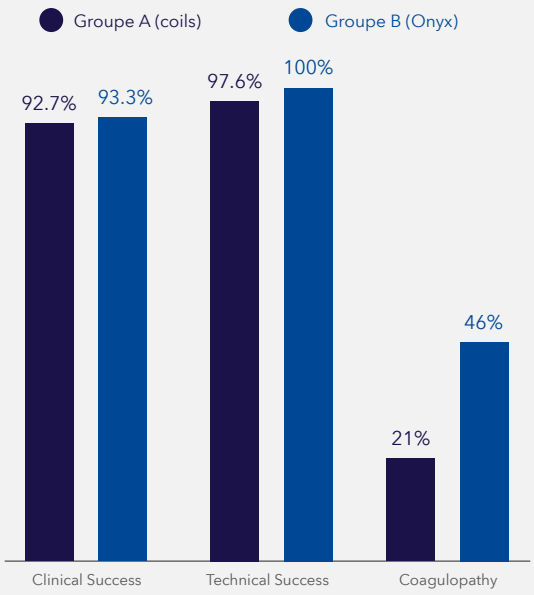
Follow-up

Follow-up was performed with clinical examination and endoscopic evaluation if necessary. Most of the patients after the procedure were discharged and was not possible to collect homogeneous data about long term follow-up.

One-year endoscopic follow-up was performed in 44 of the 71 patients (25 of group A and 19 of group B).

Results

- Technical and clinical success was 97.6% and 92.7% for Group A, and 100% and 93.3% for Group B respectively, without any statistically significant difference groups.
- **Coagulopathy was present in 21% of Group A (coils) and 46% of Group B (Onyx™)**
- Ten patients (7/41 Group A; 3/10 Group B) re-bled within the first 72 h.
- A second treatment was performed, and hemorrhage control was obtained in 100% of these cases.
- The number of pushable coils used per procedure ranged between 3 and 8 (median 5); detachable coils ranged between 1 and 4 (median 2).
- A maximum of one vial of 1.5mL of Onyx™ was used for each procedure.
- One case of bowel ischemia that required surgical resection (major complication) was encountered in Group A. No minor or major complication occurred in Group B.
- One-year endoscopic follow-up documented 2 cases of new peptic gastric ulcer at 3 and 6 months respectively after the procedure. Both these two patients were of group A, but the presence of the ulcer was not attributed to the procedure.



Conclusions

This study demonstrated Onyx™ appears to be as safe and effective as coils in the treatment of nonvariceal UGIB.

Reference

Tipaldi MA et al, et al. "Trans Arterial Embolization of Non-variceal Upper Gastrointestinal Bleeding: Is the Use of Ethylene-Vinyl Alcohol Copolymer as Safe as Coils?". Cardiovasc Intervent Radiol. 2018; 41:1340–1345

Go to article

Medtronic

Europe
Medtronic International Trading Sàrl.
Route du Molliau 31
Case postale
CH-1131 Tolochenaz
www.medtronic.eu
Tel: +41 (0)21 802 70 00
Fax: +41 (0)21 802 79 00

medtronic.eu