Hemorrhoids: embolic therapy to address bleeding, inflammation, and pain

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Disclosure

Speaker name:

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I have the following potential conflicts of interest to report:

☒ Consulting Medtronic Vascular

☐ Employment in industry

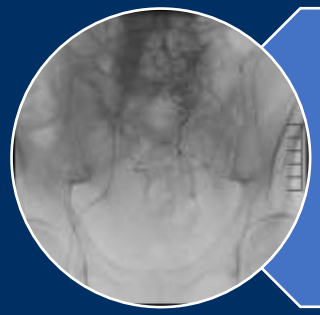
☐ Stockholder of a healthcare company

☐ Owner of a healthcare company

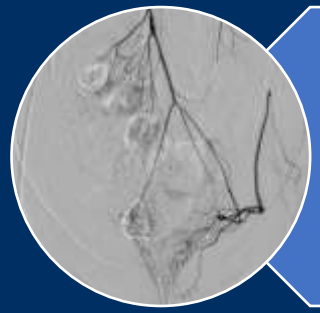
☐ Other(s)

☐ I do not have any potential conflict of interest

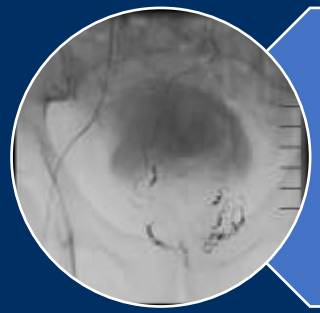
Outline



Understand indications for embolization



Recognize the anatomy



Review techniques and outcomes

What is the problem?

- National Health Interview Survey: 13% of the US population diagnosed with hemorrhoids in the prior year
- Women more likely to report hemorrhoids vs men (24% vs 16%)
- 21% (7.7 million) reported having had surgery

Table 1. Why We Do Not Know the Best Treatment for Hemorrhoids

Poor quality trials (eg, lack of blinding, randomization, complete follow-up evaluation)
Lack of head-to-head comparison for each treatment (RBL, IRC, cryotherapy, surgery)
Treatment success is operator- and experience-dependent
Outcomes not measured in standard fashion
Absence of PROs for range of symptoms (itch, urgency, perianal leakage)
Inadequate sample size
Short-term and variable follow-up evaluation
Different techniques for the same intervention (forceps, suction for banding)
Variable duration of symptoms before treatment
Different grades of hemorrhoids (I, II, III)

RBL, rubber band ligation.

LeClere FB, Moss AJ, Everhart JE, et al. Prevalence of major digestive disorders and bowel symptoms, 1989. Adv Data 1992; 212:1–15.

Clinical Gastroenterology and Hepatology 2019;17:8–15

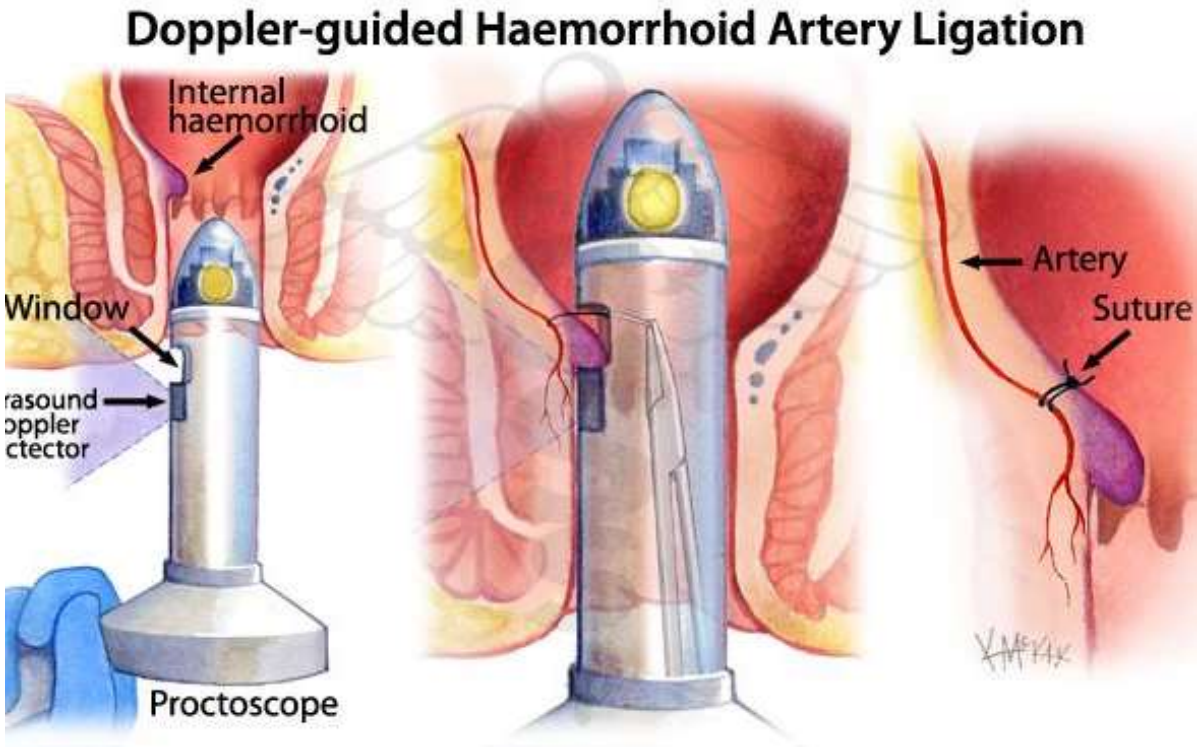
Doppler-guided Hemorrhoidal Artery Ligation (DGHAL)

Ligation of SRA terminal branches

Flow of hemorrhoidal plexus is reduced

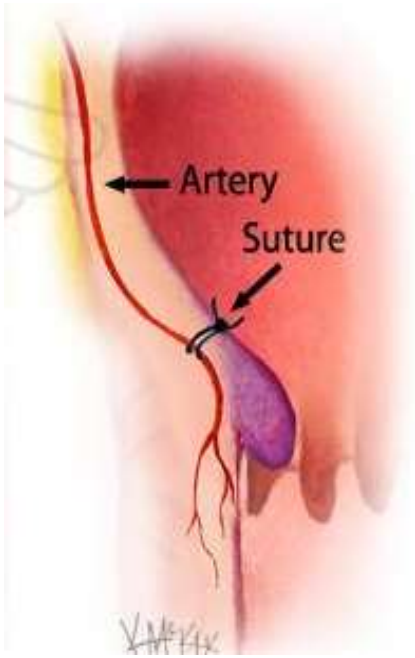
Shrinkage of the hemorrhoidal cushions

Pooled clinical success 82.5%



Pucher PH, Sodergren MH, Lord AC, Darzi A, Ziprin P. Clinical outcome following Doppler-guided haemorrhoidal artery ligation: a systematic review. Colorectal Dis 2013; 15:284–294.

Emborrhoid Concept Courtesy Prof Vidal



EMBORRHOID

Indications

Symptoms

- Pain 32%
- Bleeding 68%
- Anemia 16%

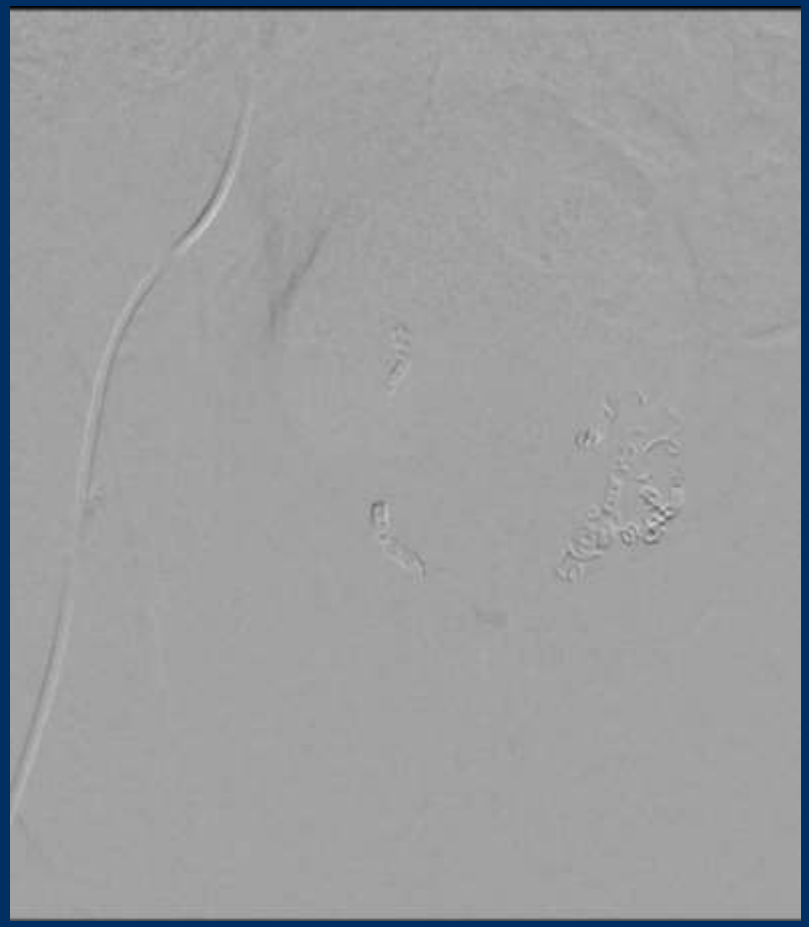
Grades

- I: No protrusion
- II: Protrusion with spontaneous reduction- 68%
- III: Protrusion requiring manual reduction- 32%
- IV: Protrusion that cannot be reduced

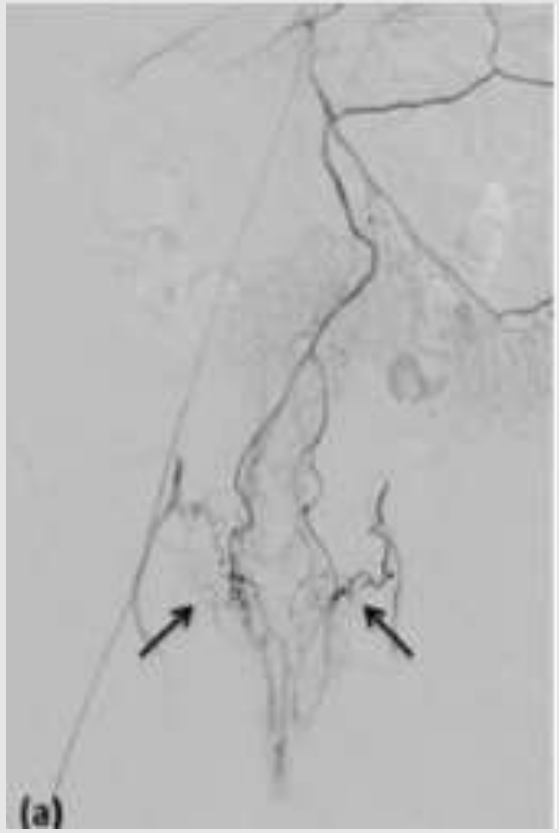
J Vasc Interv Radiol 2018; 29:884–892

Technique

1. IMA catheterization
2. Selective microcatheter SRA
3. Distal catheterization
4. Embolization
5. +/- middle rectal artery contribution



Anastomosis of middle rectal artery and SRA



- 25-40% of patients
- Associated with failed clinical improvement
- When anastomoses are located lower, the hemorrhoidal plexus is not correctly devascularized with metallic coils

Cardiovasc Intervent Radiol (2020) 43:1062–1069

Surg Radiol Anat 2013;35:517—22

Distribution

Courtesy Prof. Vidal

Type I

60 % **No depicted middle rectal artery**

Type II

40 % **Uni or bilateral middle rectal artery**

Distal embolization and choice of embolics

- Coils alone
- Coils + particles

Evidence for coils alone

N=14
72% improvement
1 month

N=25
72% clinical improvement
12 months
24% MRA dominance

2017

2015

2018

N= 30
72% improvement
5 months

. Cardiovasc Intervent Radiol 2015; 38:72–78.

Colo- rectal Dis 2017; 19:194–199.

J Vasc Interv Radiol 2018; 29:884–892

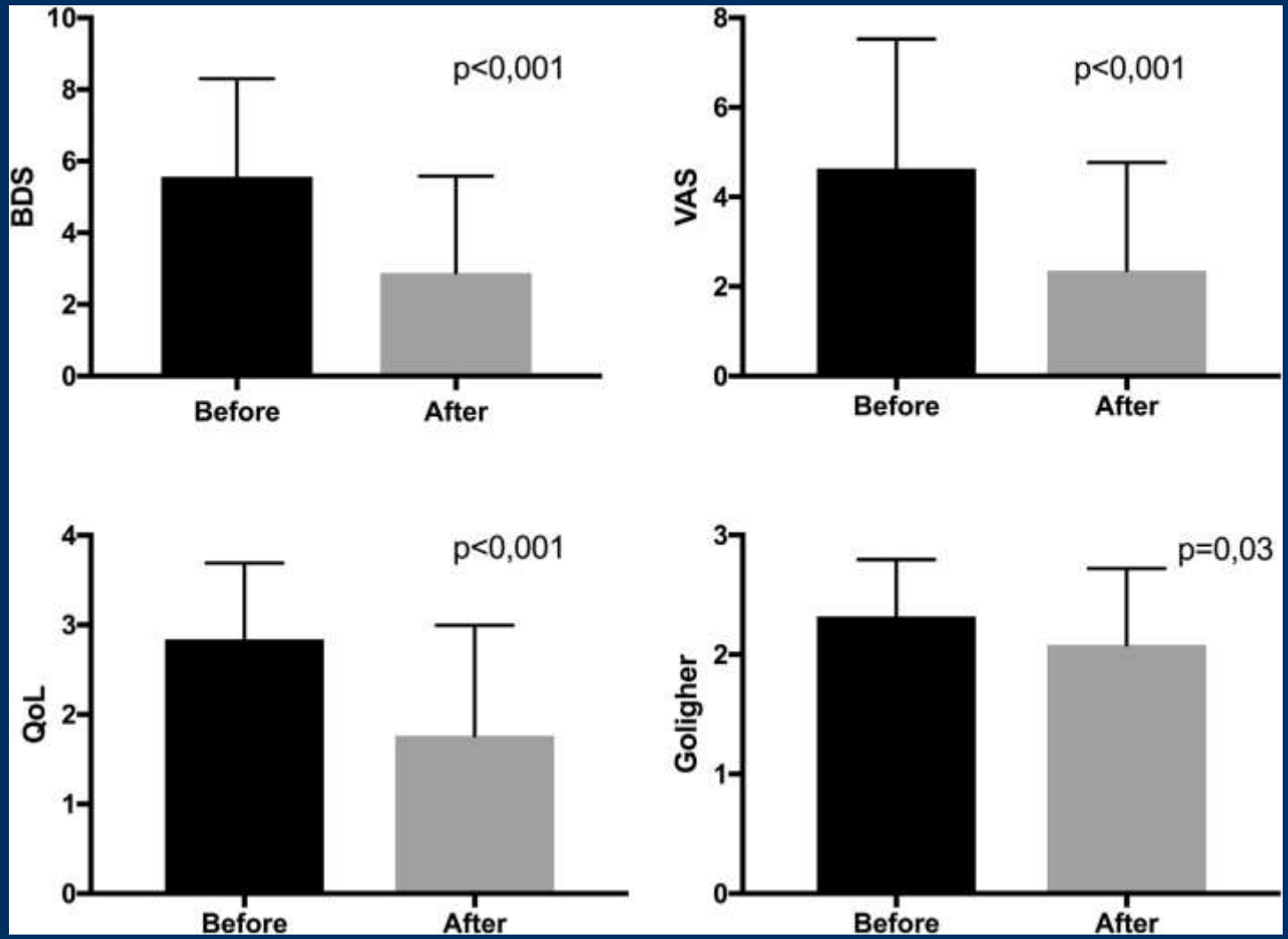


Figure 3. Graphs show changes in bleeding score (BDS), VAS score, quality-of-life (QoL) score, and Goligher prolapse score at 12 months after superior rectal artery embolization. Data are reported as mean; vertical bars indicate SD

J Vasc Interv Radiol 2018; 29:884–892

Evidence for coils + distal embolization

N=40

PVA 300 microns

83-94% patient satisfaction

1 month follow-up no ischemia

N= 19 patients

Embospheres® 300–500 microns

68% clinical improvement

12 months follow-up

2020

2016

2020

N=32

Gelatin sponge (350-560 microns

84% clinical improvement

6 months follow-up 18% recurrence

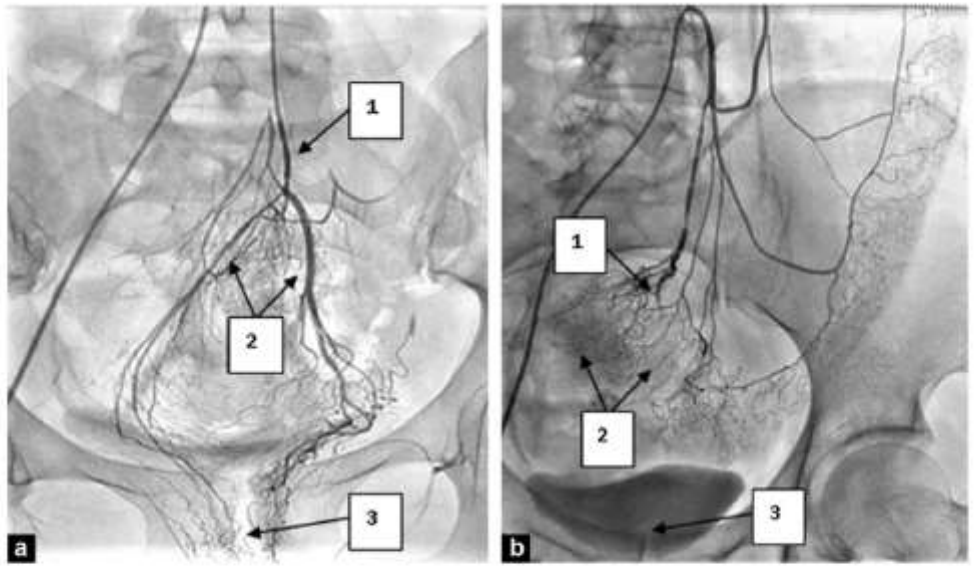


Figure 1. 52-year-old man with internal hemorrhoids that were treated using embolization of superior rectal artery; a: angiogram before embolization: 1. Terminal part of the inferior mesenteric artery; 2. Bifurcation of the superior rectal artery (SRA); 3. Terminal branches of the SRA that feed the internal hemorroids; b: angiogram after embolization: 1. Occlusion of the SRA; 2. Absence of iodinated contrast material in the branches of SRA; 3. Absence of contrast in the terminal branches of SRA.

Diagnostic and Interventional Imaging (2016) **97**, 1079—1084

Tech Coloproctol. 2020 Jul 25. doi: 10.1007/s10151-020-02312-8.

Cardiovasc Intervent Radiol (2020) 43:1062–1069

Coils alone vs. added particles?

Technical success: 100%

Overall clinical success: 66% (25/38)

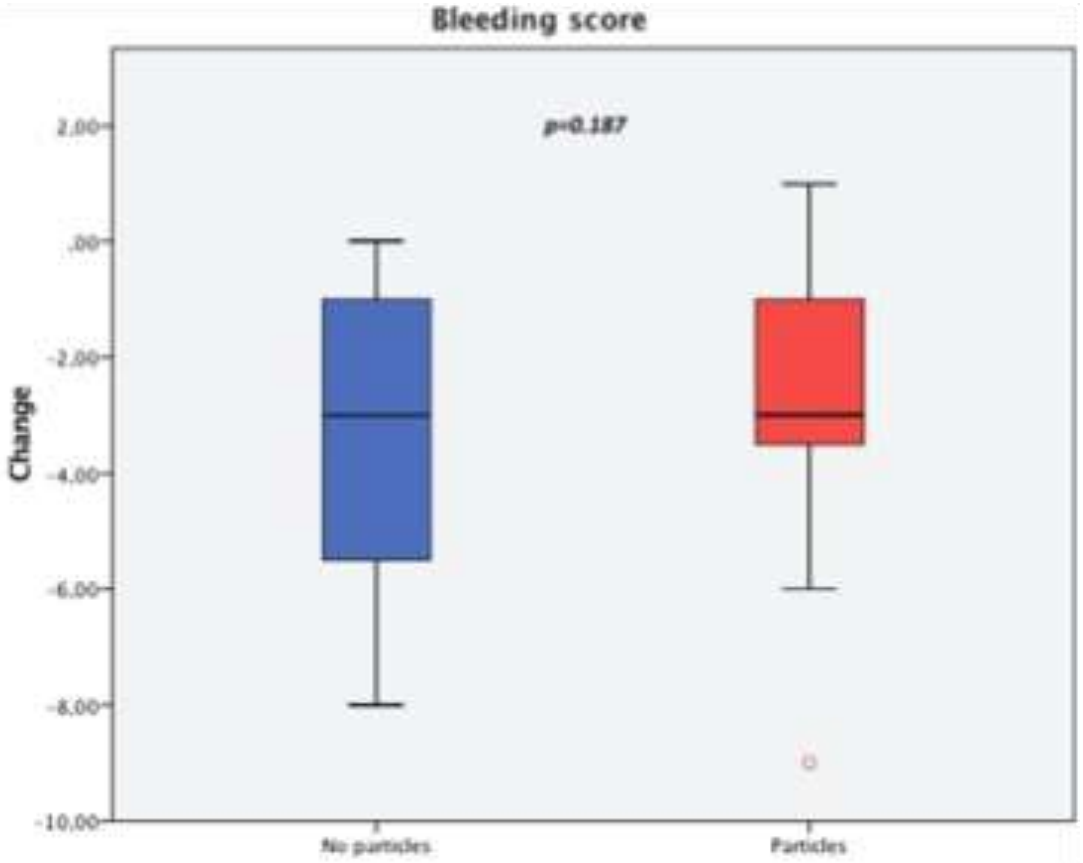


Table 3 Change in clinical scores

	Coils only				Coils + particles			
	Before	After	Change	*P*	Before	After	Change	*P*
Paris bleeding severity score	7 [6–8]	4.0 [1.75–7]	− 3 [− 6; − 1]	< 0.001	7 [6–8]	4 [3 − 7]	− 3 [− 4; − 1]	< 0.001
Goligher's prolapse score	2 [1.75–3]	2 [2–3]	0 [0–0]	0.331	3 [1–3]	2 [1–3]	0 [0–0]	0.163
QOL	3.5 [3–4]	2 [1–2]	− 2[− 2; − 1]	< 0.001	3 [3–4]	3 [3–4]	− 1[− 2–0]	< 0.001

Median (IQR)

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LIIE Laboratoire d'Imagerie Interventionnelle Expérimentale

Aix*Marseille université

Take home points

Why offer to your patients?

Prevalent dz women>> men

SRA embolization: 66-82% clinical improvement

Minimally invasive

Possibly less complications as compared to DGHAL

When offer to your patients?

Not surgical candidates

Refractory surgical treatment

QoL issues with recurrent bleeding

Patient preference

What is needed?

A randomized comparative evaluation with DGHAL would help to define the role of the emborrhoid technique as a minimally invasive therapeutic alternative

In the meantime:

Registry of cases to evaluate efficacy and different outcomes

Start collaborating with other specialists

Thank You!

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