

Safety and Efficacy of Hemorrhoidal Artery Embolization in Patients Refractory to Conservative Management

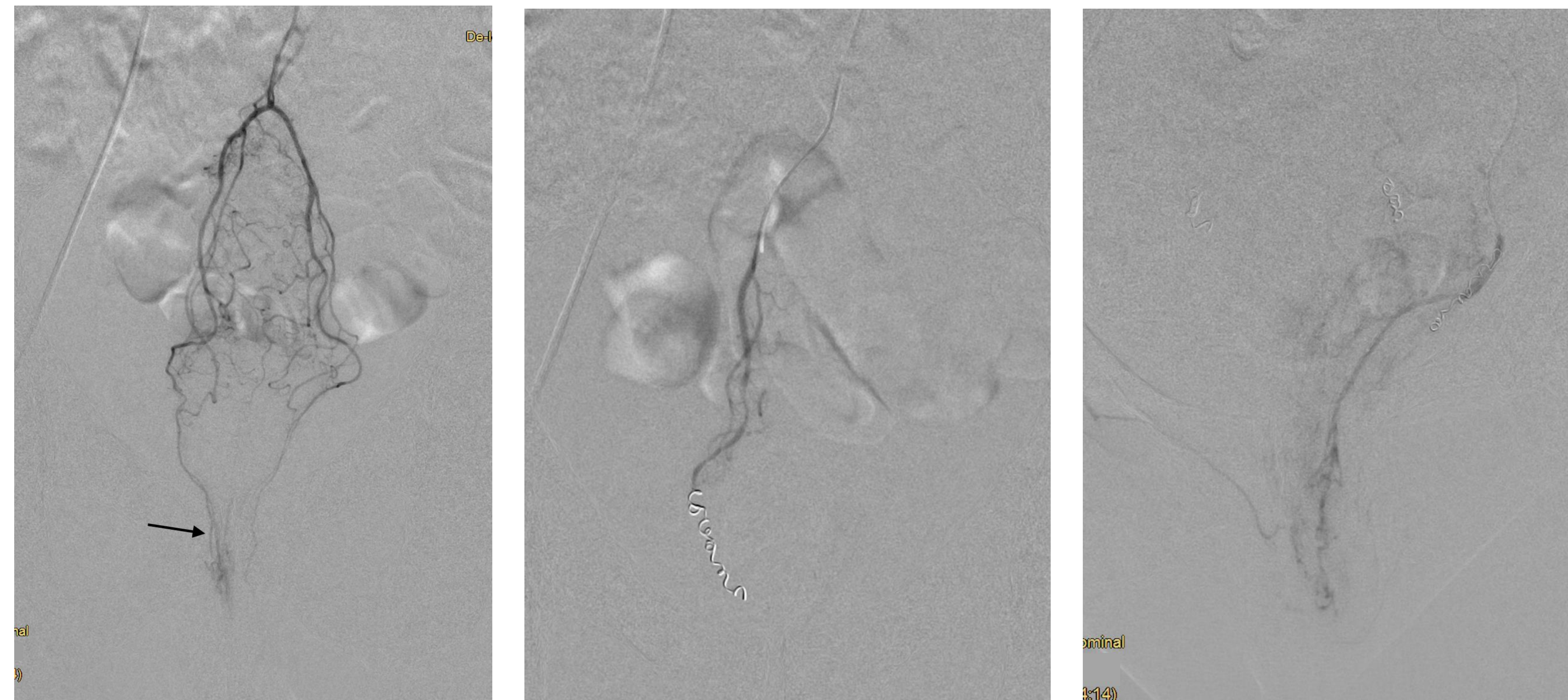
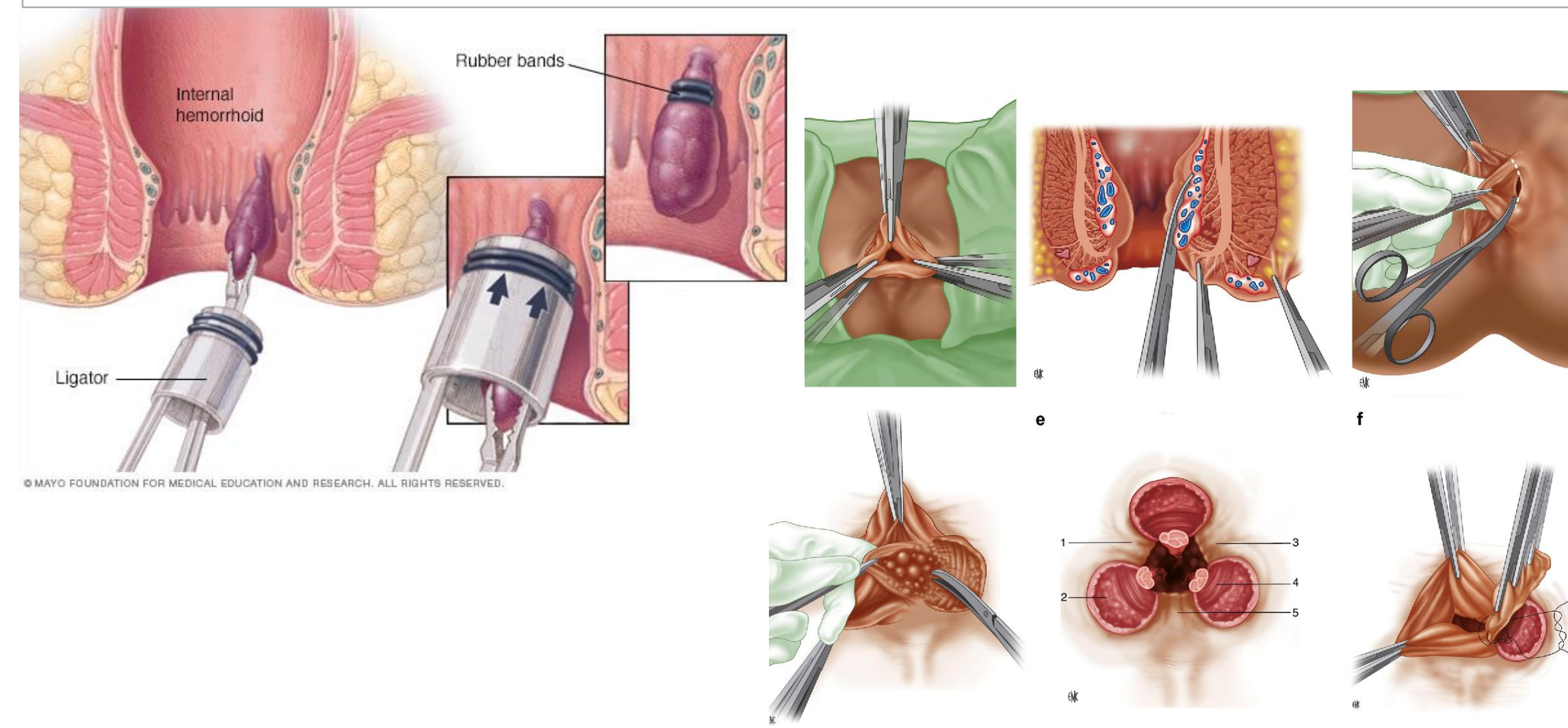
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Introduction

- Hemorrhoid disease is the fourth leading outpatient gastrointestinal diagnosis that affects more than 10 million Americans.
- Vidal et al. first described hemorrhoidal artery embolization (HAE) as an effective procedure for patients with pain and bleeding secondary to internal hemorrhoids
- The purpose of this large cohort study is to evaluate the safety and efficacy of transarterial embolization for symptomatic refractory internal hemorrhoids in a real-world setting.



	Mean	SD
N	134	
Age		
Sex	M: 76	F: 58
Symptoms		
- <5 years	40/134	30.0%
- 5-10 years		
- 10-20 years	35/134	25.4%
- >20 years		
Prior Treatments		
- Sitz Bath and Softener		
- RBL	66/134	49.3%
- Hemorrhoidectomy		
- Infrared Photocoagulation	5/134	3.7%
Baseline Scores		
- HRP	4.1	2.1
- HSS		
- QoL	2.2	0.8
- FBS		
- HG	2.3	1.0

Materials and Methods

- Inclusion criteria: : age > 21 years, symptomatic hemorrhoids (bleeding, pain, itching, soiling or prolapse), and failure of prior treatment (pharmacological, hygiene/dietary, and nonsurgical minimally invasive interventions)
- Outcomes (Baseline, 1 and 3 Month): hemorrhoid related pain (HRP, 0-10), hemorrhoid symptoms score (HSS, 5-20), quality of score (QoL, 0-10), French bleeding score (FBS, 0-9), and the hemorrhoid grade (I-IV).
- Femoral Artery Access → IMA → SMA. Identify hemorrhoidal cushion. Embolization was then performed by administering aliquots of 0.2ml of polyvinyl alcohol (PVA) foam embolization particles followed by coils.

Score		Baseline N: 134	1 Month N: 124		3 Months N: 44	
HRP	Mean	4.1	1.3	p < 0.01	1.2	p < 0.01
	% Reduction		33%		34%	
HSS	Mean	11	7.8	p < 0.01	8.6	p < 0.01
	% Reduction		72%		80%	
QoL	Mean	2.2	0.8	p < 0.01	1.0	p < 0.01
	% Reduction		62%		48%	
FBS	Mean	4.4	2.2	p < 0.01	2.4	p < 0.01
	% Reduction		54%		46%	
HG	Mean	2.3	1.1	p < 0.01	1.2	p < 0.01
	% Reduction		47%		44%	

Figure 1: Digital subtraction angiography (DSA) of the superior rectal artery (SRA). The right corpus cavernosum recti (arrow) demonstrates supply to the right hemorrhoidal cushion.

Figure 2: Post-coil embolization DSA of the right SRA illustrates stasis post embolization.

Figure 3: DSA after catheterization of the left SRA illustrates retrograde opacification of the left middle rectal artery (MRA) supplying the hemorrhoidal cushion, in addition to the SRA.

Table 1: Population Demographics.
Table 2: Paired t-test analysis. Outcomes over time at baseline, 1 month, and 3 months.

Conclusions

- HAE is a safe and effective outpatient procedure for patients with symptomatic hemorrhoids refractory to conservative management.
- With the emergence of minimally invasive options for symptomatic hemorrhoid disease, HAE may be an attractive safe, and less invasive option with high clinical success rates.

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