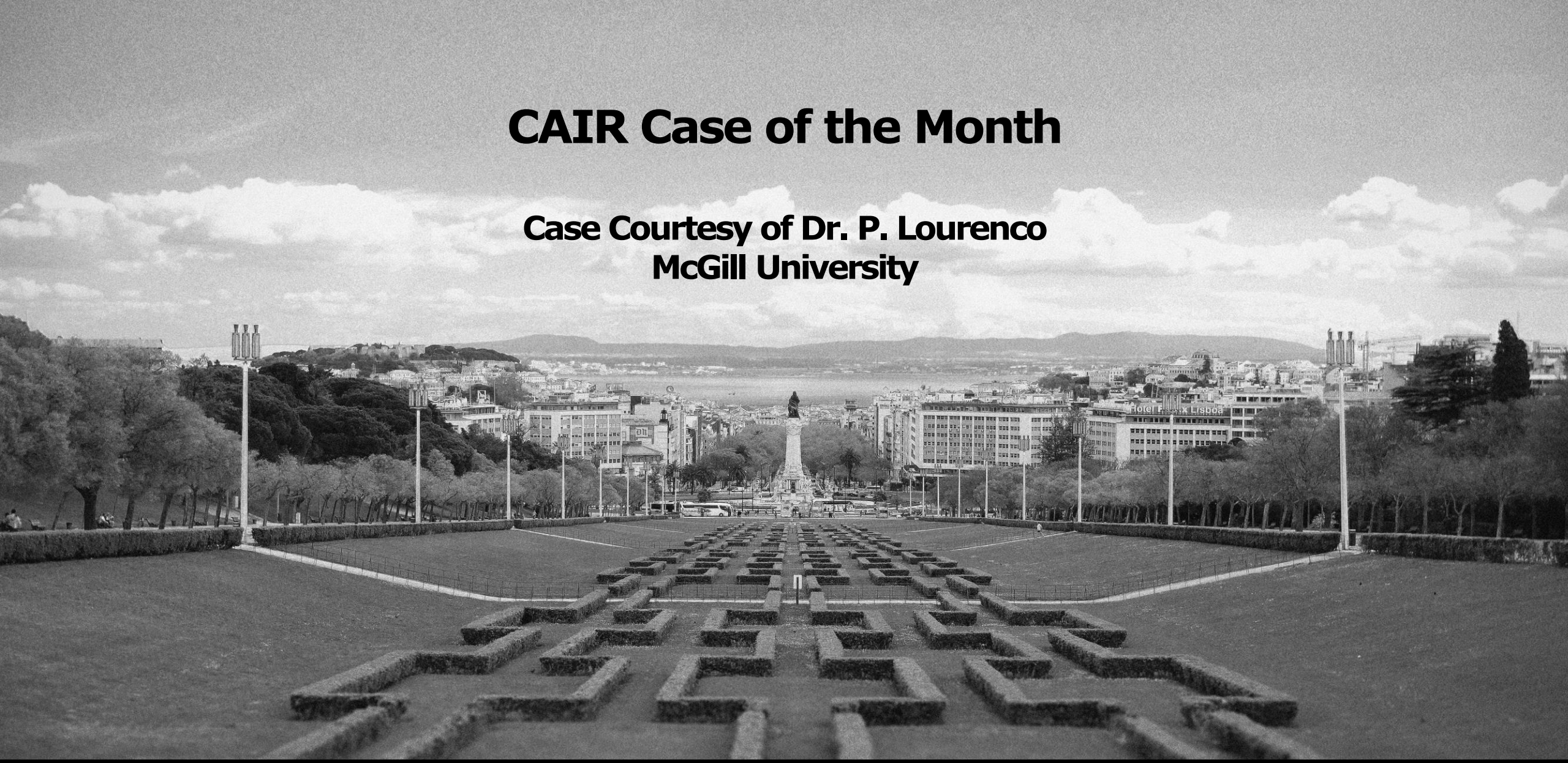
CAIR Case of the Month



Case Courtesy of Dr. P. Lourenco
McGill University

McGill

Clinical Preamble

- 82 year-old male
- Severe hemorrhoid disease requiring IV Fe therapy
- Prior hemorrhoid band ligation performed, limited success
- Now, acute on chronic hemorrhoid hemorrhage, requiring transfusion with 3 units PRBCs previous week, subsequently d/c home
- On anticoagulation due to mechanical cardiac valve replacement
- Not a surgical candidate - referred to IR for ? embolization

French Hemorrhoid Bleeding Score

- Our patient had severe hemorrhage, scoring 9 out of 9 on validated hemorrhoid bleeding score

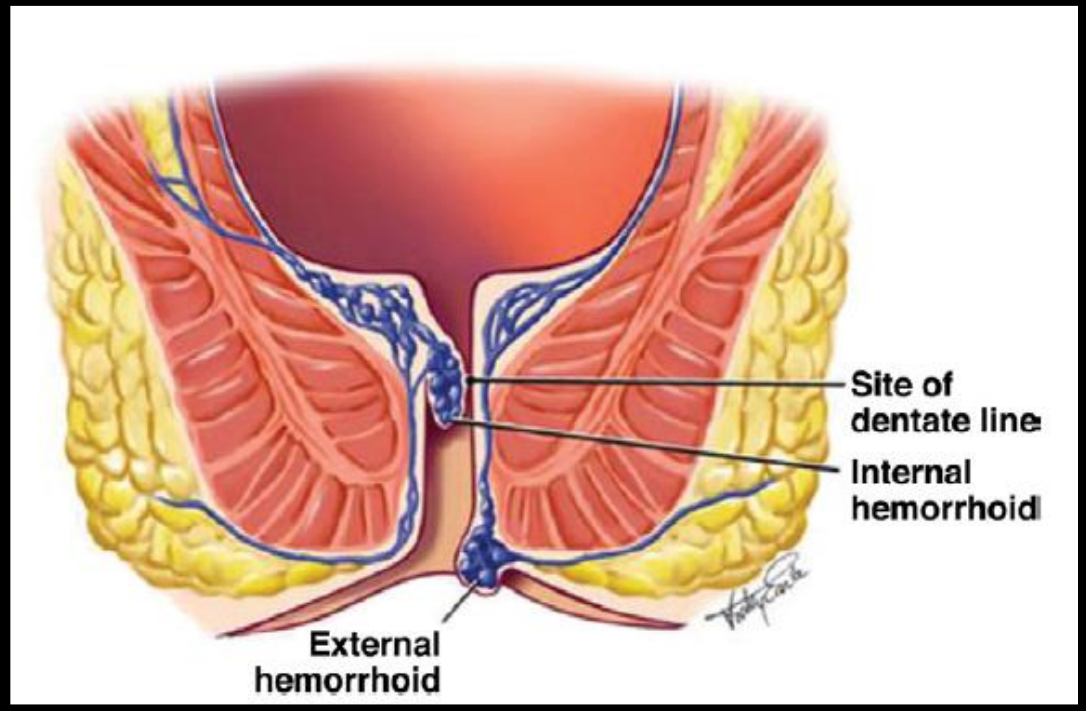
Frequency	**Never**	**0**
	≥ 1 per year	1
	≥ 1 per months	2
	≥ 1 per week	3
	≥ 1 per day or per saddle	4
Bleeding	Never	0
	At wiping	1
	In the toilet	2
	In underwear	3
Anemia	Never	0
	Without transfusion	1
	With transfusion	2
Table 1: Bleeding severity score /9		

Hemorrhoids: the basics

- Most common ano-rectal disease
  - 4-35% prevalence
- Symptoms:
  - Rectal bleeding
  - Pain with defecation
  - Prolapse
- Etiology unclear:
  - ? Chronic constipation in low fiber diets
  - ? Squatting vs. sitting

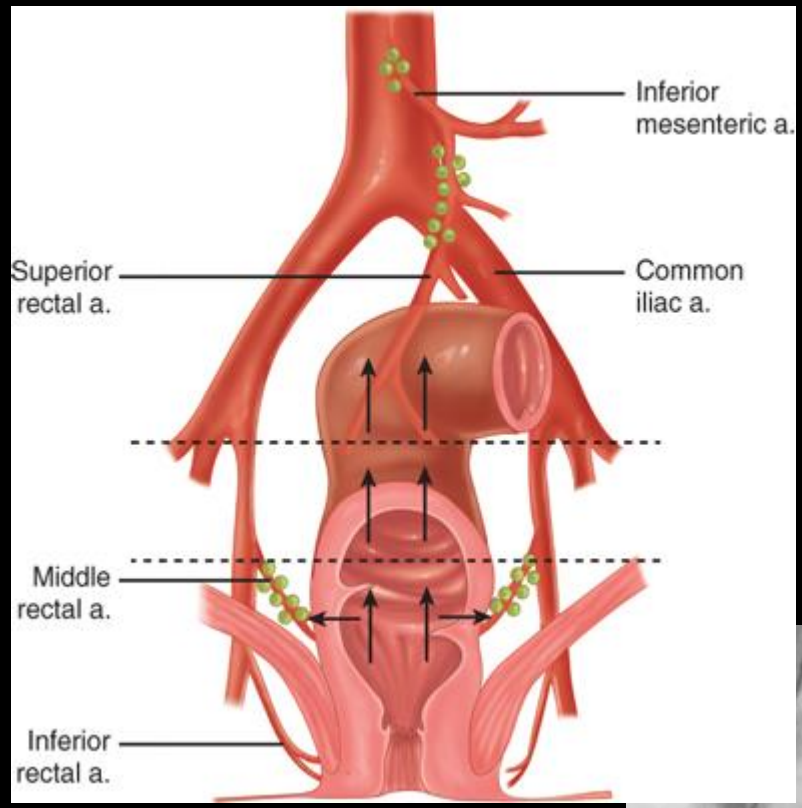
Hemorrhoids: the basics

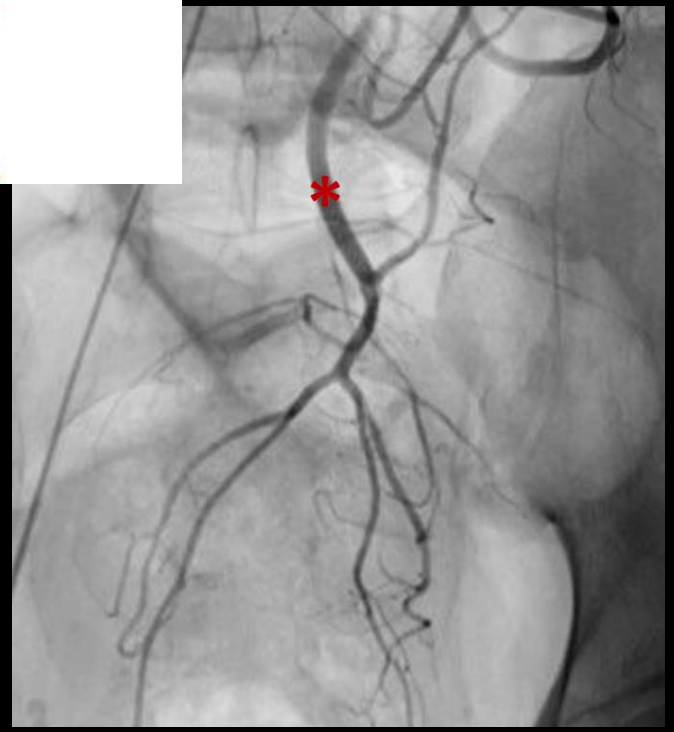
- Enlargement of hemorrhoidal cushions, similar to AVMs
- Vascular plexus above dentate line, also known as corpus cavernosum recti
- Venous vs. arterial disease
  - Controversial, likely a problem of excessive arterial inflow



Hemorrhoids: the basics

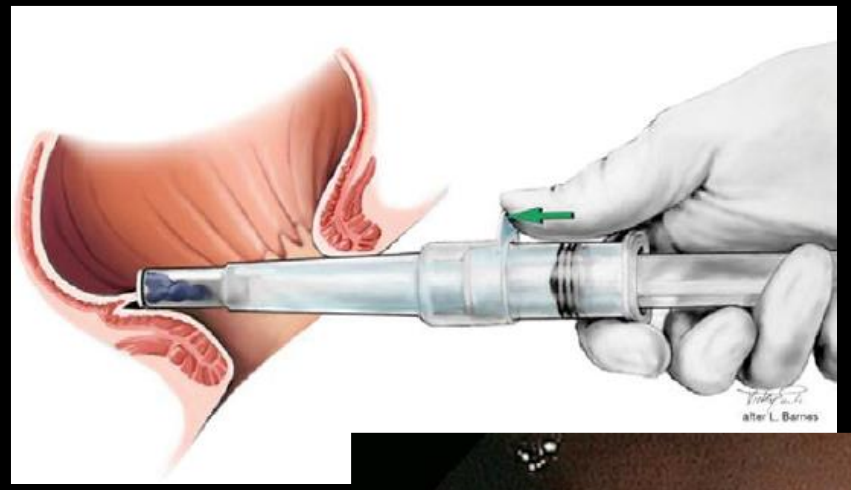
- Supplied mostly by superior rectal arteries *
- Can also have supply from middle or inferior rectal arteries





Hemorrhoids: the basics

- Multiple treatment options:
  - Conservative
    - Mostly high-fiber diet
  - Non-operative
    - Rubber band ligation
    - Sclerotherapy
    - Infra-red coagulopathy
    - Many others
  - Operative
    - Hemorrhoidectomy
    - Hemorrhoidopexy
    - US-guided hemorrhoid artery ligation



Back to our patient

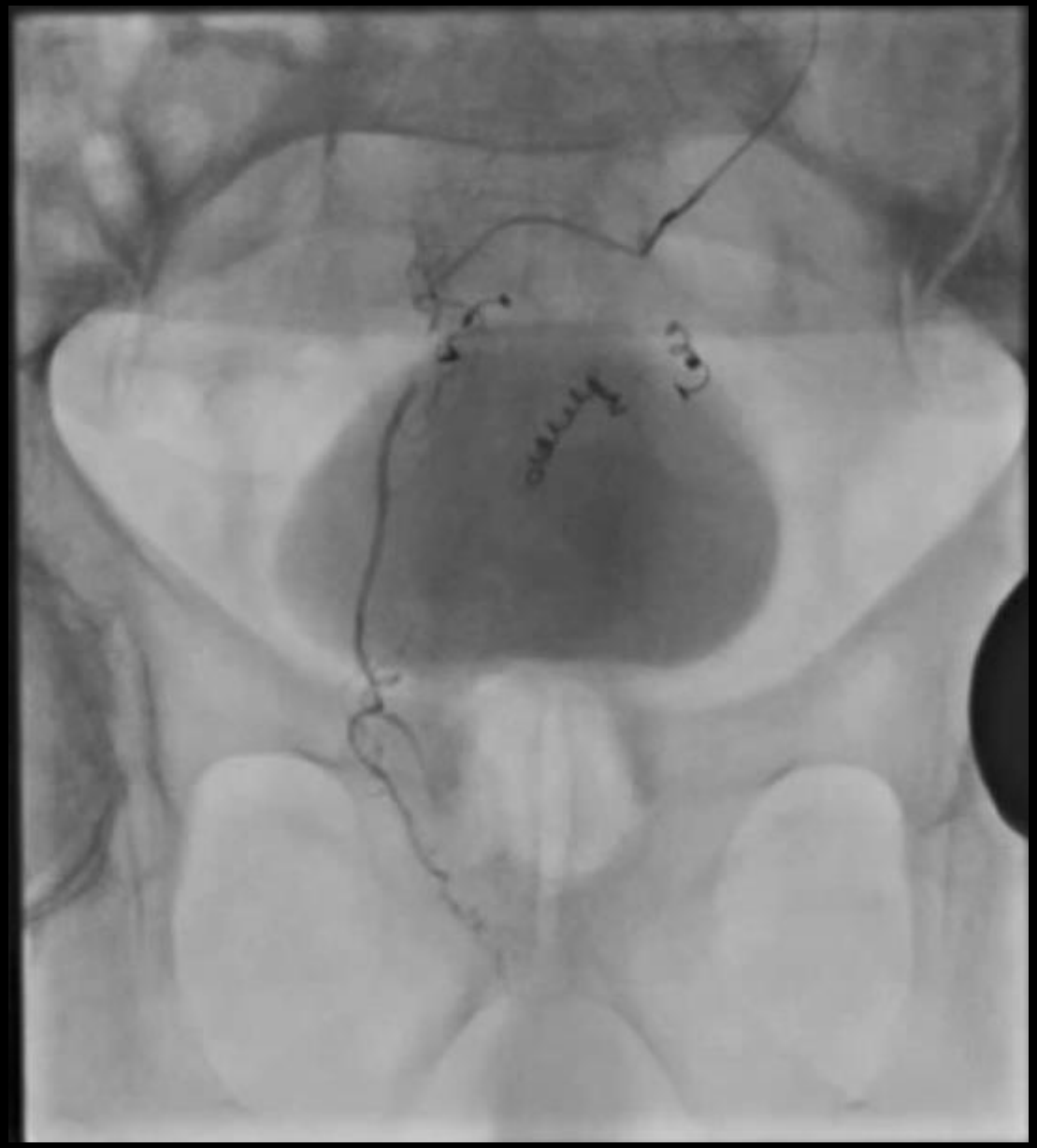
- Mechanical valves
  - Could not discontinue anticoagulation
- Trans-radial approach
  - Same day discharge anticipated
  - Lower risk of arteriotomy hemorrhage
  - Selectively catheterized IMA
  - Exchange length Terumo and KMP

Back to our patient

- 2.8 Fr Progreat used to subselect bilateral anterior and posterior superior rectal arteries
  - Multiple 2 mm and 3 mm Vortx and Hilal coils used to embolize

Back to our patient

- Persistent filling of right posterior superior rectal artery branch via collateral network
  - Further embolized with 3 mm Hilal coils

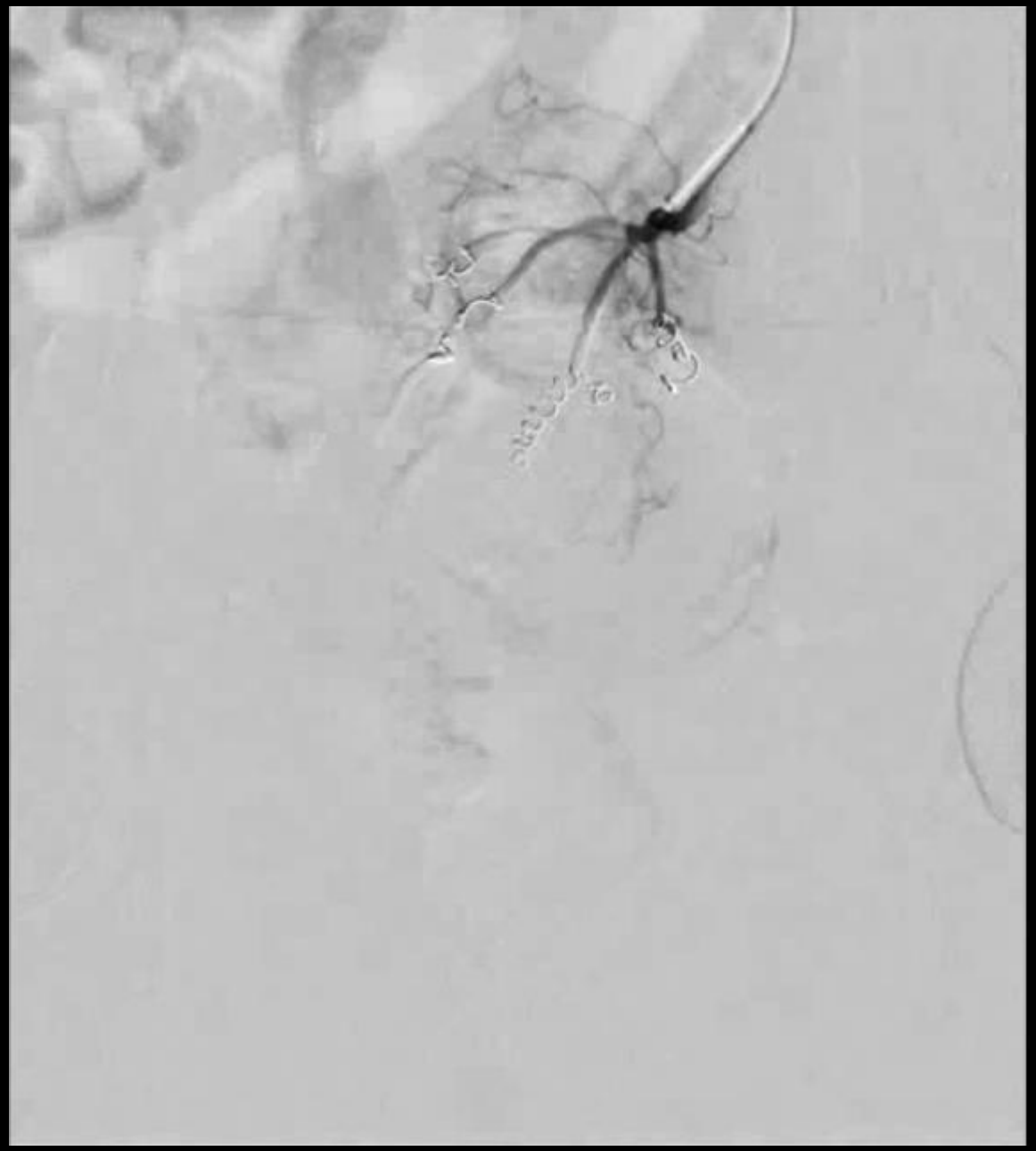


Back to our patient

Complete stasis in superior rectal artery branches

Left radial artery hemostasis with SafeGuard device

Patient discharged from our department after 4 hours



Back to our patient

- Seen 2 weeks after in clinic
- Now only light bleeding when wiping
- No pain
- On exam, hemorrhoids smaller and thrombosed

The ‘emborrhoid’ technique

Initially described by E. Galkin in 1994 and 1998 in Russian literature with little international attention

Two key papers from Vincent Vidal from France in 2015 (CVIR) and 2018 (JVIR)

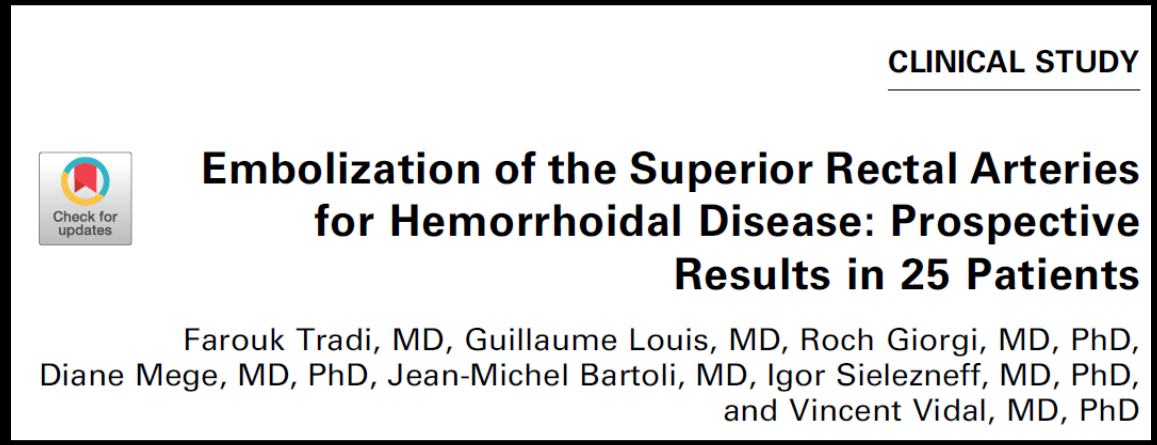
Cardiovasc Intervent Radiol (2015) 38:72–78
DOI 10.1007/s00270-014-1017-8

CIRSE

CLINICAL INVESTIGATION ARTERIAL INTERVENTIONS

Emborrhoid: A New Concept for the Treatment of Hemorrhoids with Arterial Embolization: The First 14 Cases

V. Vidal · M. Sapoval · Y. Sielezneff · V. De Parades · F. Tradi · G. Louis · J. M. Bartoli · O. Pellerin



CLINICAL STUDY

Embolization of the Superior Rectal Arteries for Hemorrhoidal Disease: Prospective Results in 25 Patients

Farouk Tradi, MD, Guillaume Louis, MD, Roch Giorgi, MD, PhD, Diane Mege, MD, PhD, Jean-Michel Bartoli, MD, Igor Sielezneff, MD, PhD, and Vincent Vidal, MD, PhD

The ‘emborrhoid’ technique

Vidal et al. (2018). *JVIR*

Similar method: 2 or 3 mm micro-coils in superior rectal arteries via femoral approach

25 consecutive patients
- 12 month follow-up

72% clinical success at 12 months

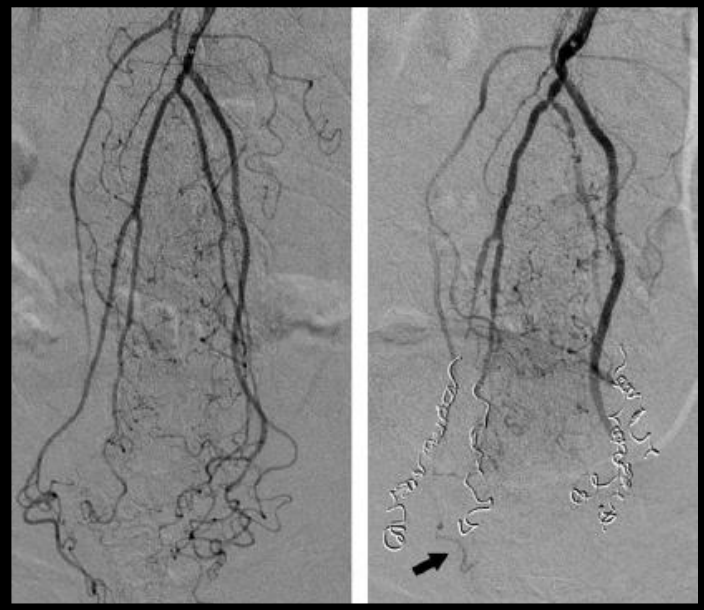
27% failure rate at 12 months
- Collateral supply to hemorrhoidal cushions was related to recurrence

No complications encountered
- No cases of rectal ischemia

Table 2. Efficacy Outcomes at 12 Months

Score	Before Treatment	After Treatment	Change (95% CI)	*P* Value
Bleeding	5.5 ± 2.7	2.8 ± 2.7	−2.7 (−3.7, −1.6)	.00001
VAS	4.6 ± 2.8	2.3 ± 2.4	−2.3 (−3.2, −1.2)	.00007
Quality of life	2.8 ± 0.85	1.7 ± 1.23	−1.1 (−1.5, −0.6)	.00006
Prolapse	2.3 ± 0.48	2.0 ± 0.64	−0.3 (0.4, −0.02)	.03

Note–Data are presented as mean ± SD.
CI = confidence interval; VAS = visual analog scale.



Images and table from Vidal et al. (2018). *JVIR*

Pearls

No active extravasation seen

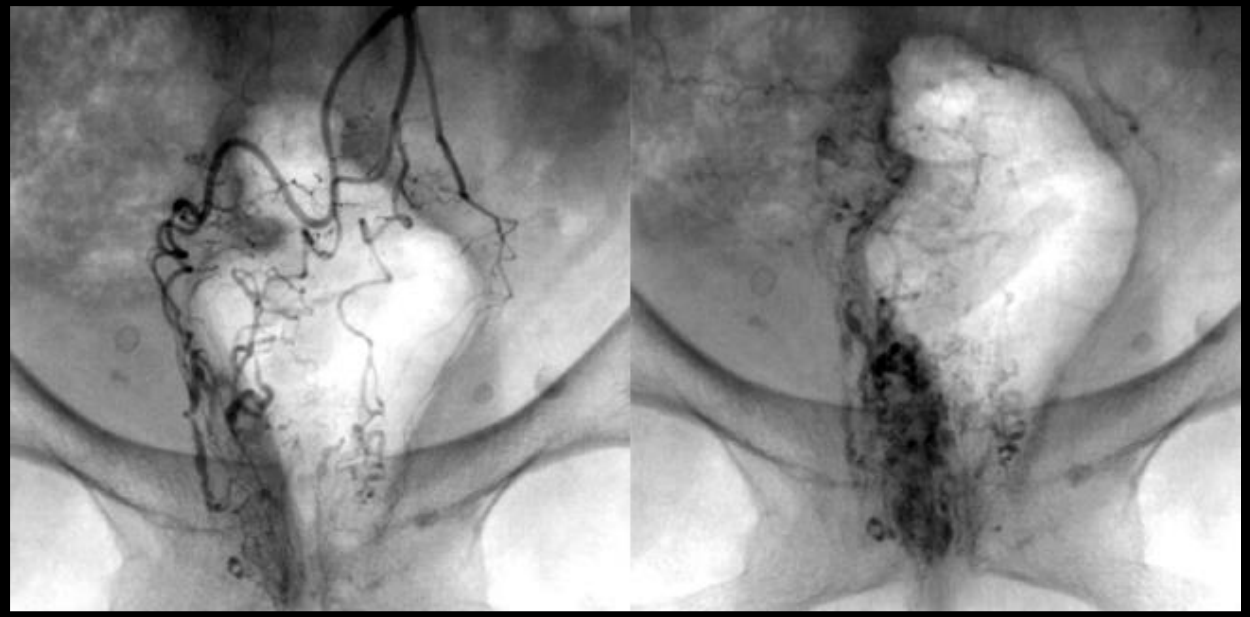
- Chronic and slow hemorrhage

Hemorrhoidal filling not readily visible on arterial phase

- Need a delayed venous acquisition to see contrast in corpus cavernosus recti

Refractory hemorrhage after embolization

- Consider more distal embolization or interrogation of middle and inferior rectal arteries



Conclusions

- Hemorrhoid embolization is a new, technically easy and effective therapy
- Safe with no documented complications
- RCT still needed, but ? future of hemorrhoid care
- IR can have a role in management of **acute** hemorrhoid hemorrhage, **and** also in **chronic** hemorrhoid disease