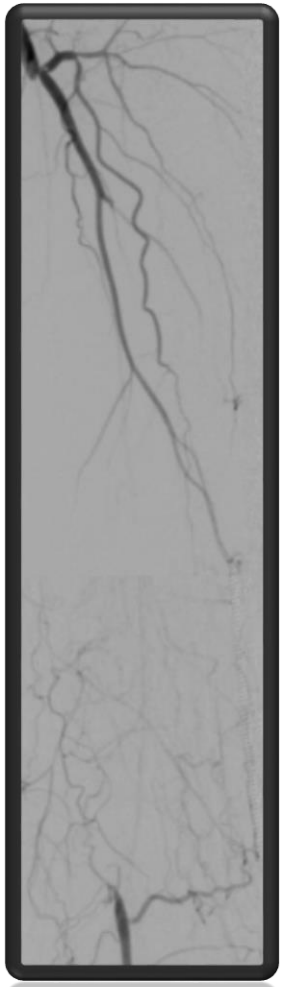


LONG FP LESIONS WITH LASER

2016

E.DUCASSE MD PhD FEVBS

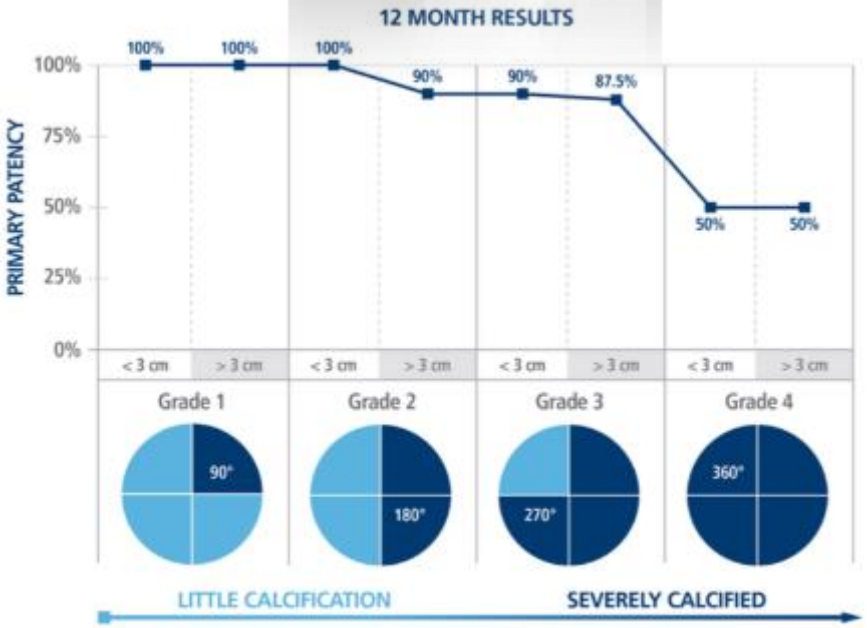
SPECIFICITIES IN SFA LESIONS

- **Long lesions / CTOs**
- **Acute elastic recoil of primary lesions → stenting**
- **Mechanical stress → nitinol stents +++**
  - **Risk of ISR**
- **Highly calcified**
  - Poor vessel wall apposition of stents
  - Barrier to optimal drug absorption with drug eluting technologies
  - Source of acute vessel recoil

ELA debulking :

- **↓ plaque burden**
- **Reshape arterial lumen**
- **↓ stretch injury at the time of PTA**

↓ elastic recoil/dissection/stenting



Fanelli et al. Cardiovasc Intervent Radiol (2014) 37:898-907)

LONG SFA STENTING AND ISR

- **Endovascular First****
  - **BUT** POBA limited by :
    - Dissection / Elastic recoil
    - Restenosis : 70% at 1y*

  → **Use of SESs**
    - Lower restenosis rates at 1y (12.7%)***
    - **BUT** up to 60% of ISR at 3y

  → **Use of DESs BUT** still 25.2% of ISR at 2y****

  → Lack of sustained clinical benefit

Longer lesions treated daily → higher restenosis rates
Nb of patients needing treatment for ISR will ↗↗
No recommandations on optimal strategy

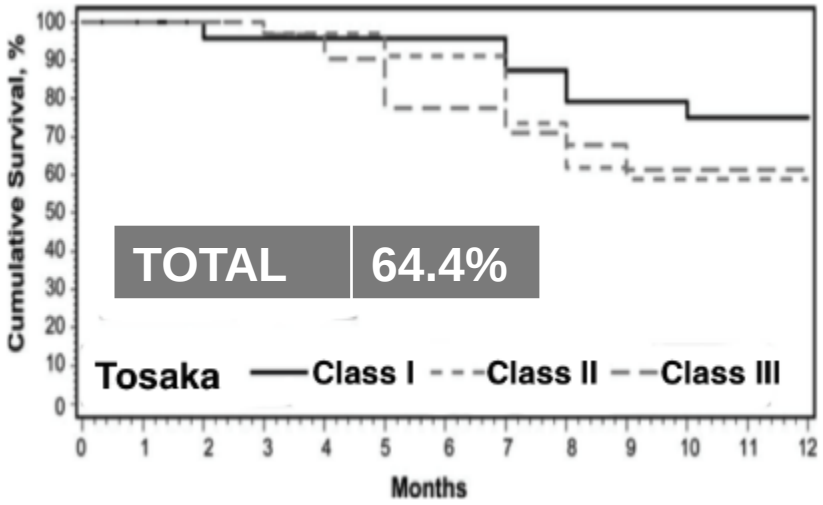
*Norgren et al. J Vasc Surg. 2007 Jan 1;45(1):S5–67.
**Hirsch et al. J Vasc Interv Radiol JVIR. 2006 Sep;17(9):1383–97.
***Schillinger et al. Circulation. 2007 May 29;115(21):2745–9.
****Dake et al. J Am Coll Cardiol. 2013 Jun 18;61(24):2417–27.

ELA IN ISR (1)

- **Xe gas + hydrogen chloride**
  - Vaporization = ↘ embolic potential
  - "cold-tipped" = "stunned platelet" phenomenon = ↗ thrombus dissolution*

- **PATENT trial****
  - prospective multicenter trial
  - 90 patients
  - Mean lesion length 123±95.9 mm
  - 34.4% Tosaka class III
  - Procedural success : 98.9%
  - Adjunctive POBA in 87.8%
  - Distal embolization : 10.0%
  - BUT NO amputation
  - Primary patency : 37.8%.

Freedom from TLR at 1y

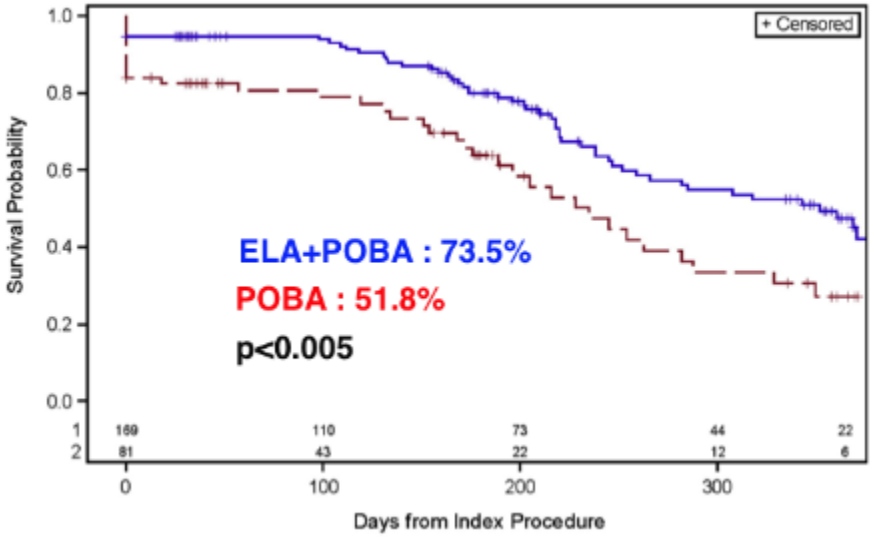


*Topaz et al. Thromb Haemost. 2001 Oct;86(4):1087–93.
**Schmidt et al. J Endovasc Ther Off J Int Soc Endovasc Spec. 2014 Feb;21(1):52–60.

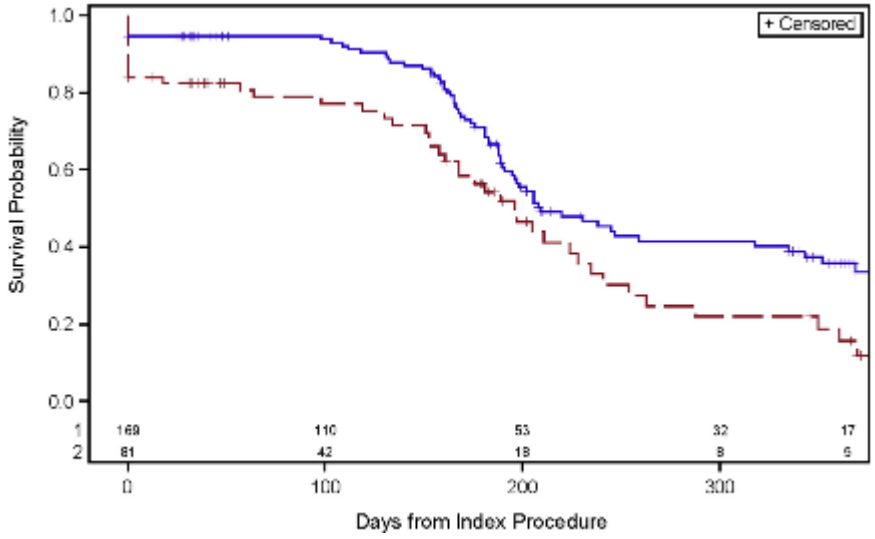
ELA IN ISR (2)

- **EXCITE-ISR trial :**
  - Prospective RCT
  - Stopped enrollment for early efficacy at 6 months
  - 169 ELA+POBA vs 81 POBA
    - mean lesion length 196±120 mm
    - 30.5% Tosaka class III
  - Procedural success : 93.5% vs. 82.7%, p=0.01
  - 30-day MAEs : 5.8% vs. 20.5%, p<0.001

Freedom from TLR at 1y



Primary patency



COMBINED TECHNIQUE

- **Gandini et al. RCT* :**
  - CLI patients
  - 100% Tosaka class III

Patency rates

FU	ELA+DCB N=24 224±9.4mm	DCB N=24 259±87mm	p value
6 months	91.7%	58.3%	0.01
12 months	66.7%	37.5%	0.01

Freedom from TLR rate

12 months	83.3%	50%	0.01

Major amputation rates

12 months	8%	46%	0.003

Vessel preparation is key :
- Essential for Tosaka class III
- **DEBULKING** of non cellular material before paclitaxel can reach cellular layer

Insufficient evidence for now to support routine use of ELA

BUT ELA debulking + DCB = very promising approach especially for challenging patient

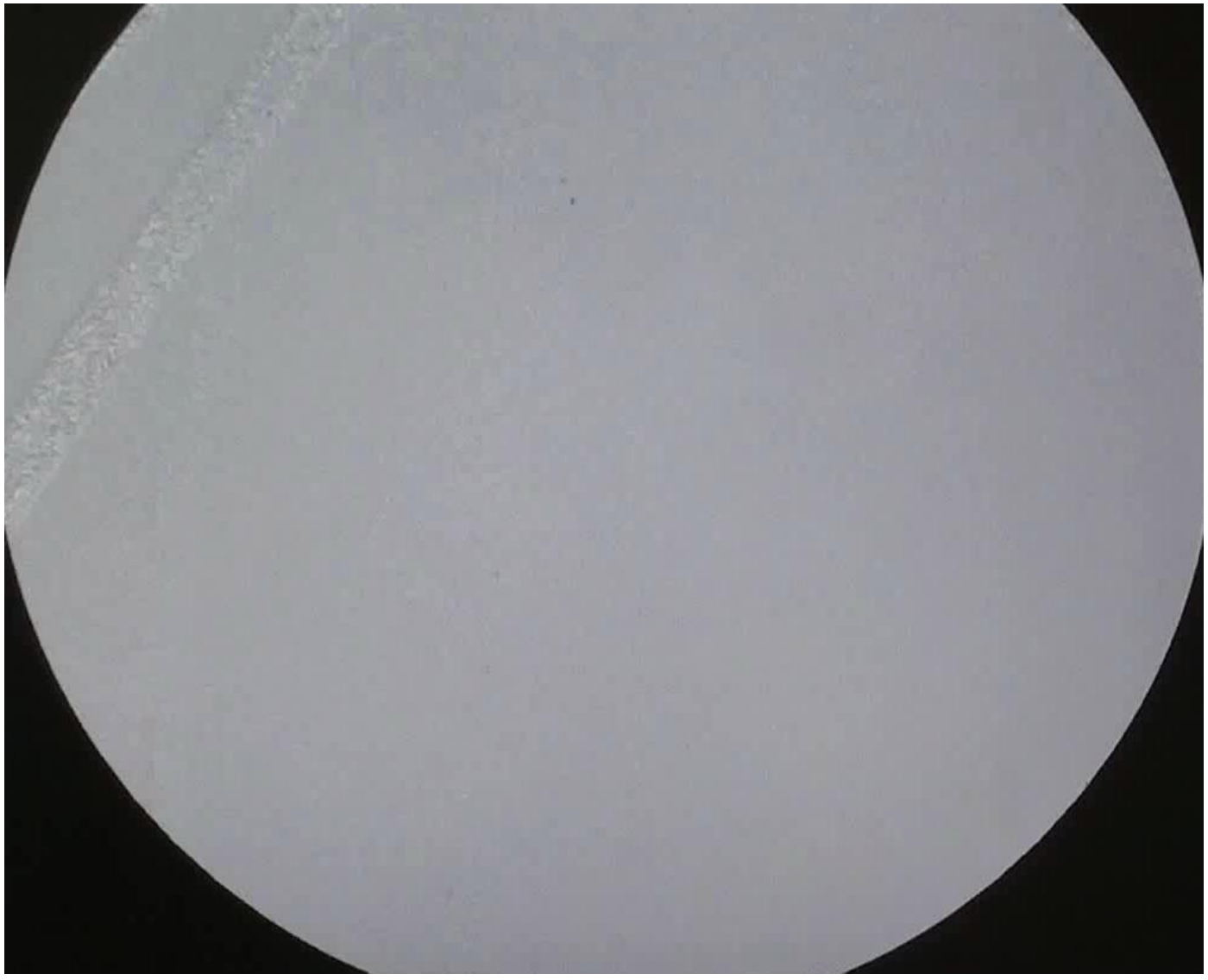
- **Ongoing PHOTOPAC RCT for further evaluation****

*Gandini et al. J Endovasc Ther Off J Int Soc Endovasc Spec. 2013 Dec;20(6):805–14.
**PHOTOPAC. Clinicaltrials.gov. [Internet]. 2015.

CLINICAL CASE

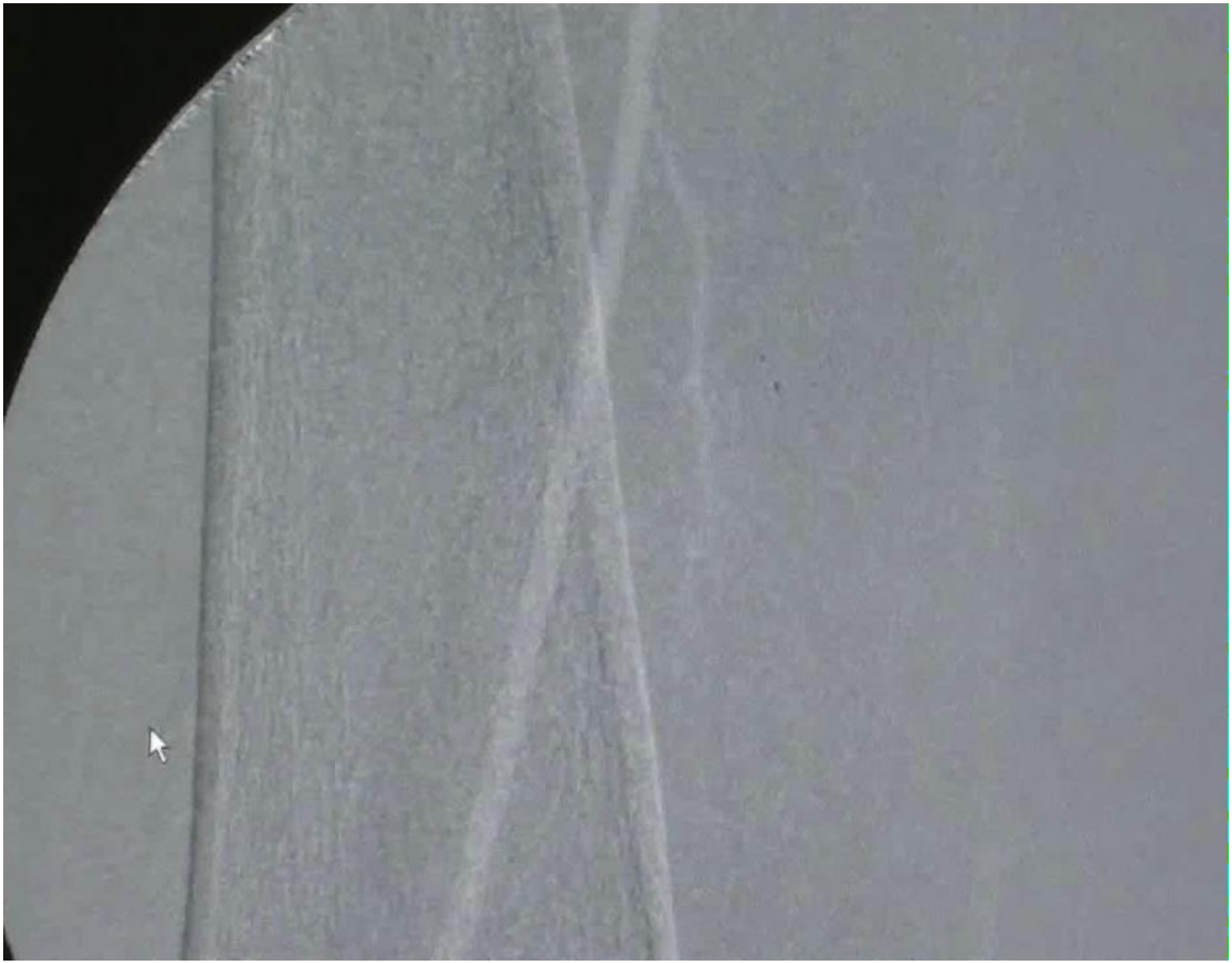
- ♀ **62 years**
- **SFA recanalisation 16 months ago**
  - Full metal jacket with 3 stents (7mm diameter)
- **ISR after 10 months**
  - → ISR inflation using PTA at 12 months
- **New symptomatic ISR (90-95%) on duplex investigation**

CLINICAL CASE



CLINICAL CASE

CLINICAL CASE



CLINICAL CASE

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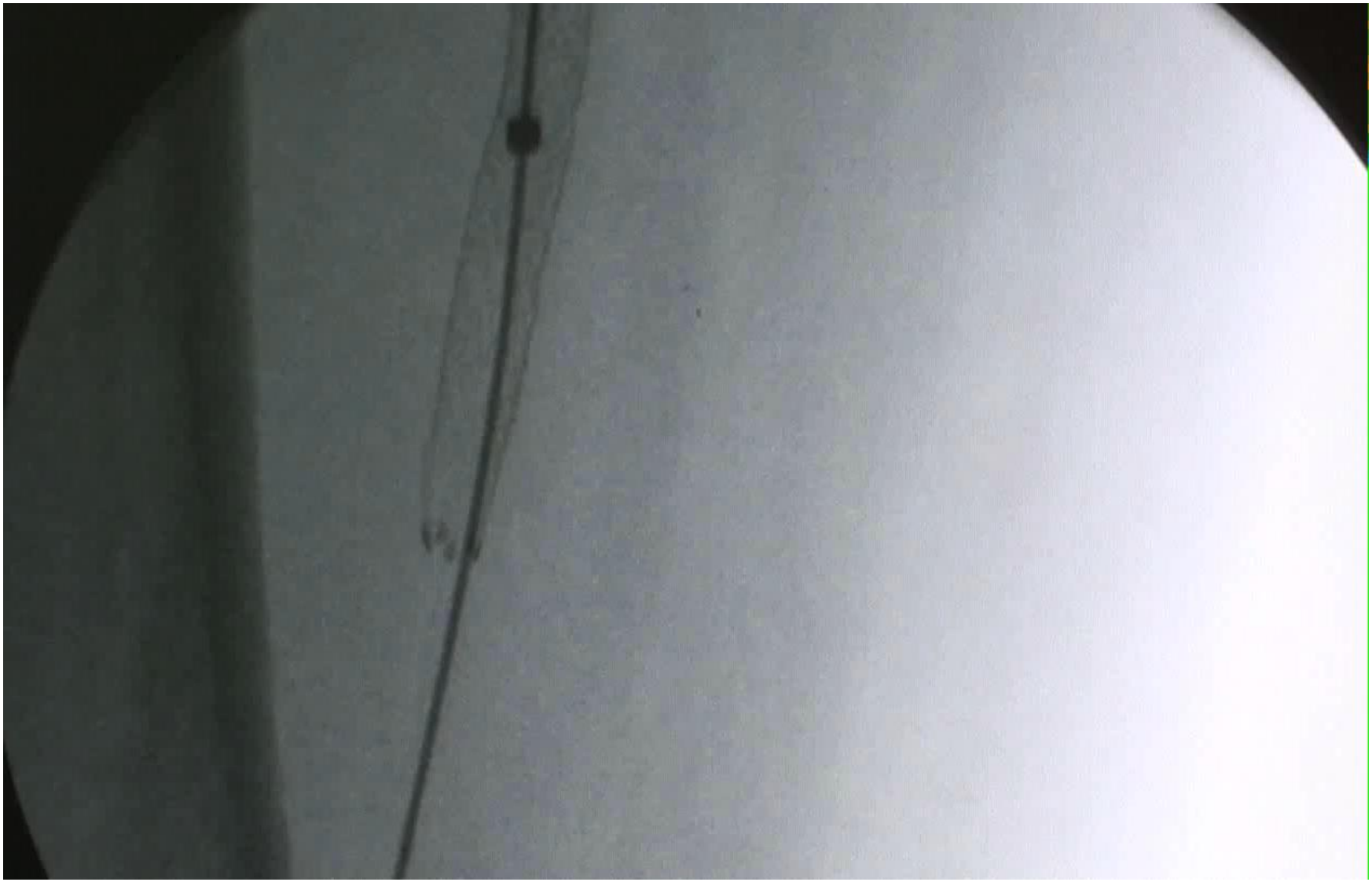

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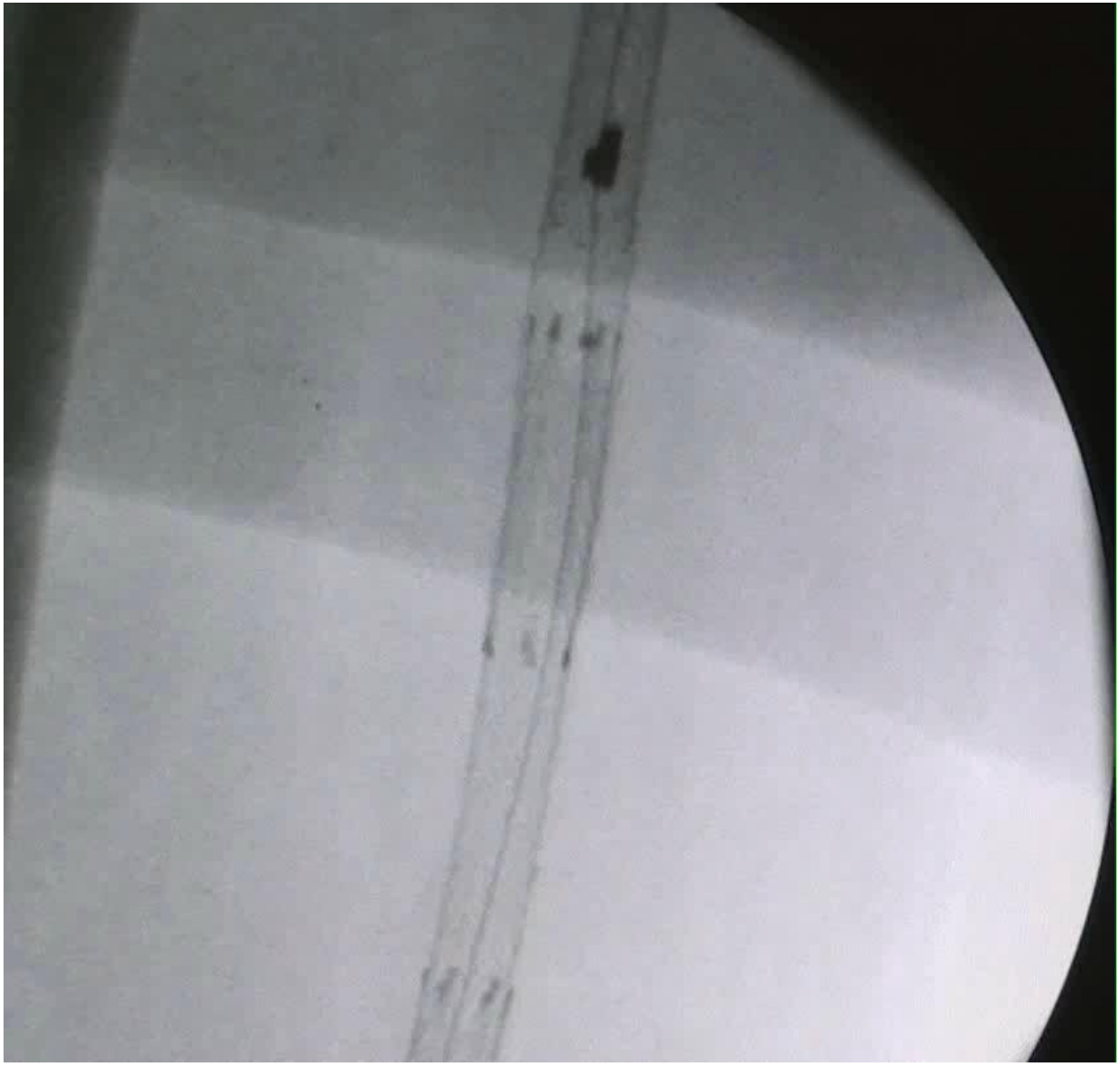

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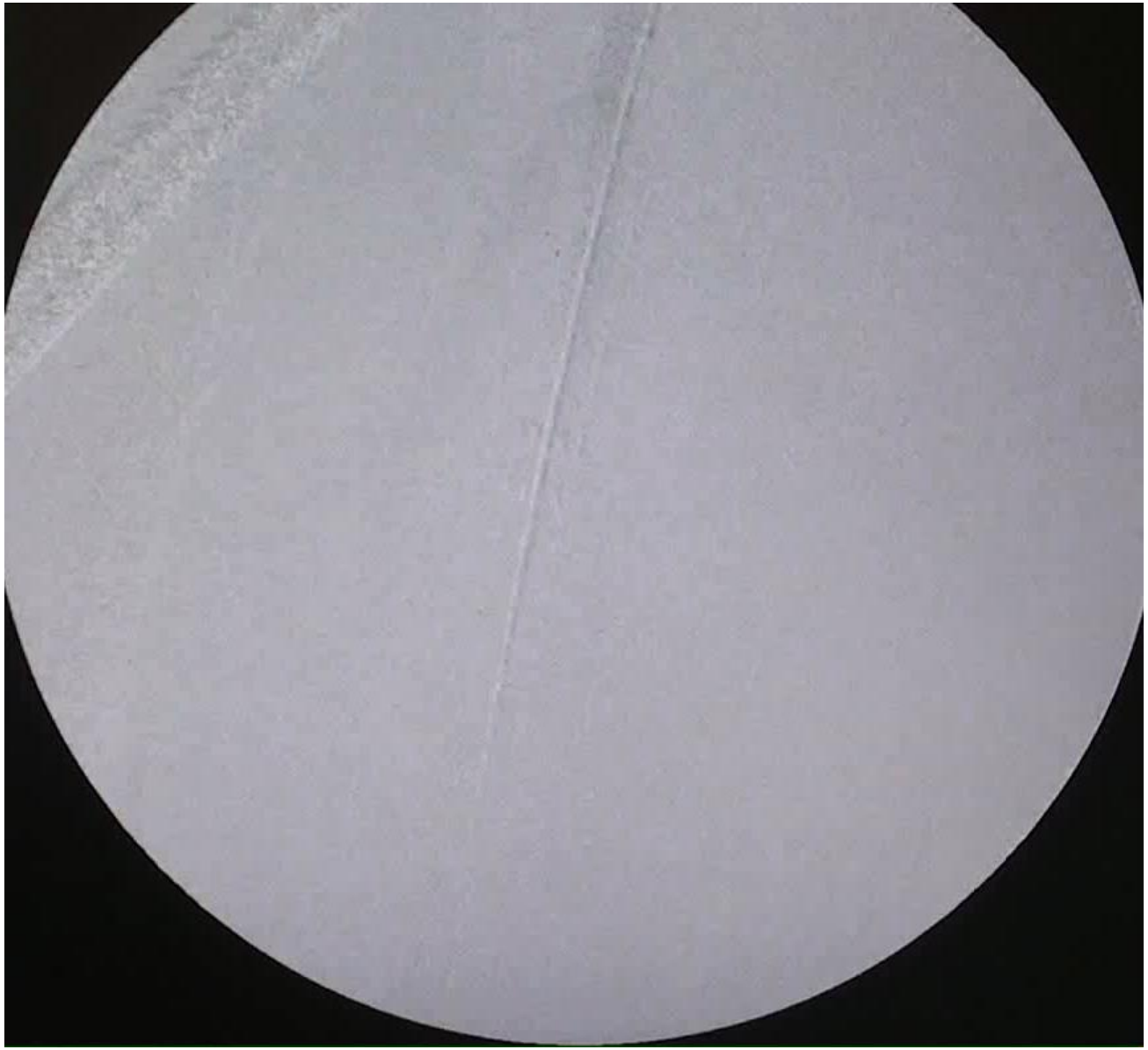

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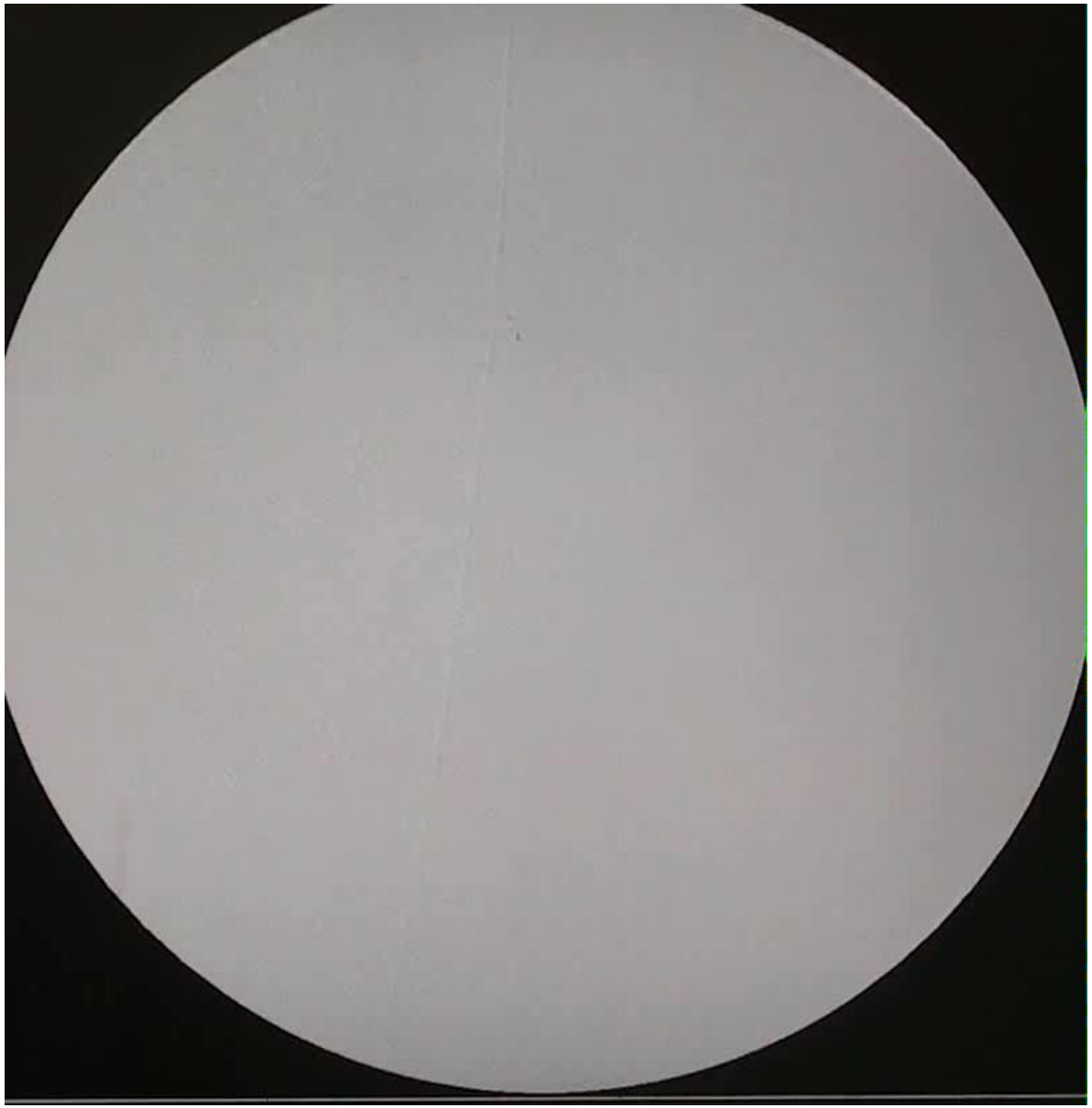

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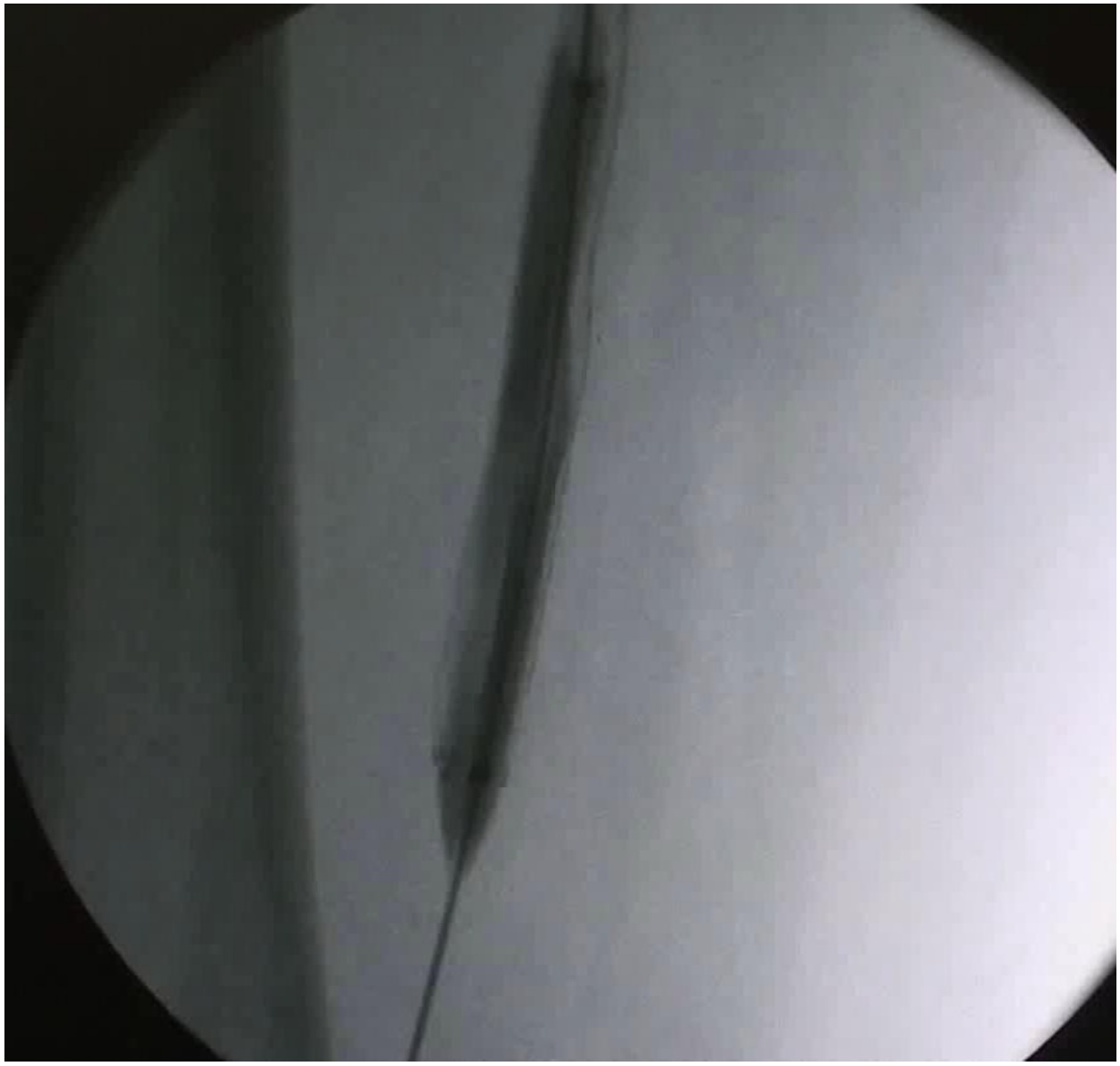

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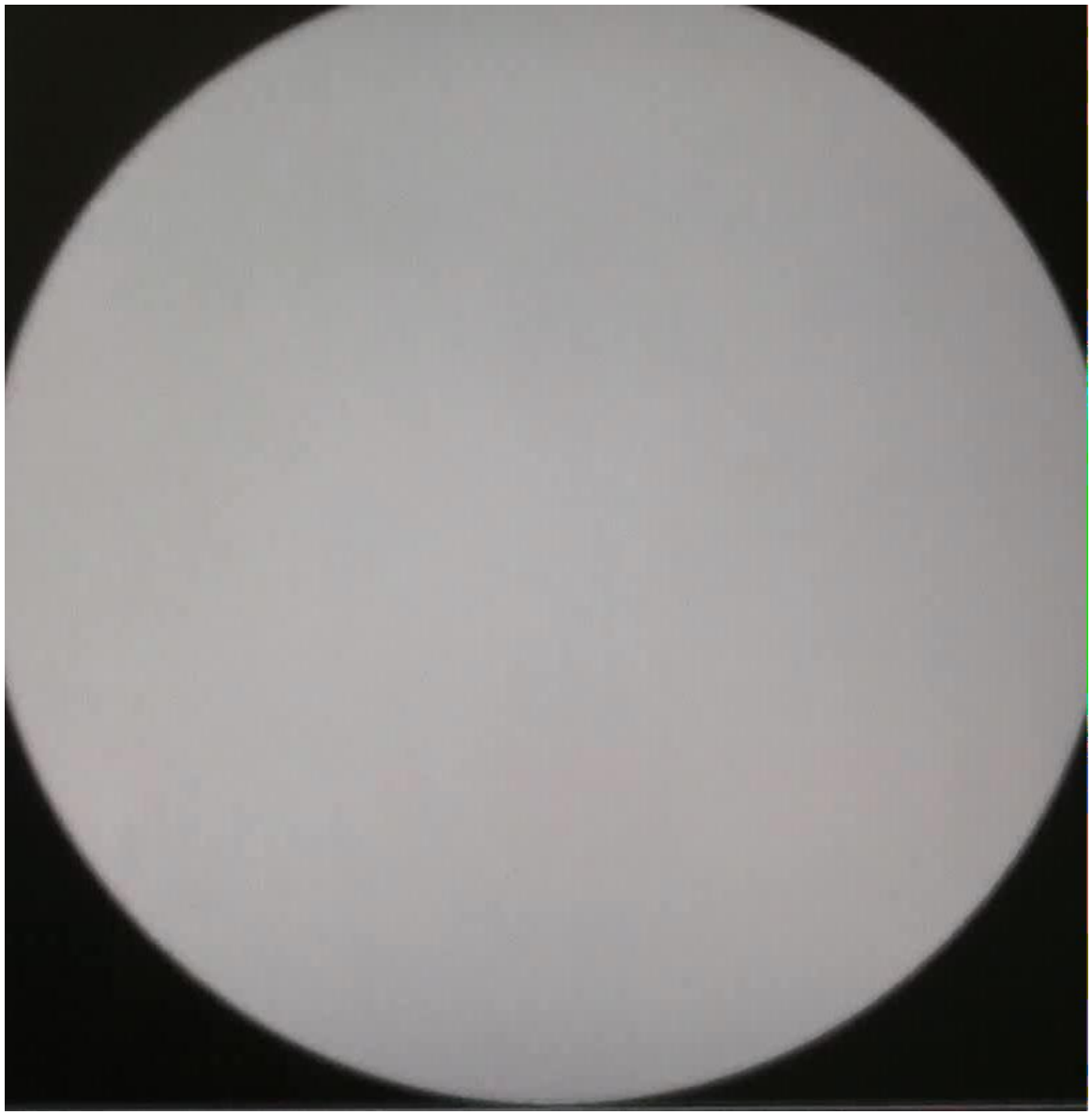

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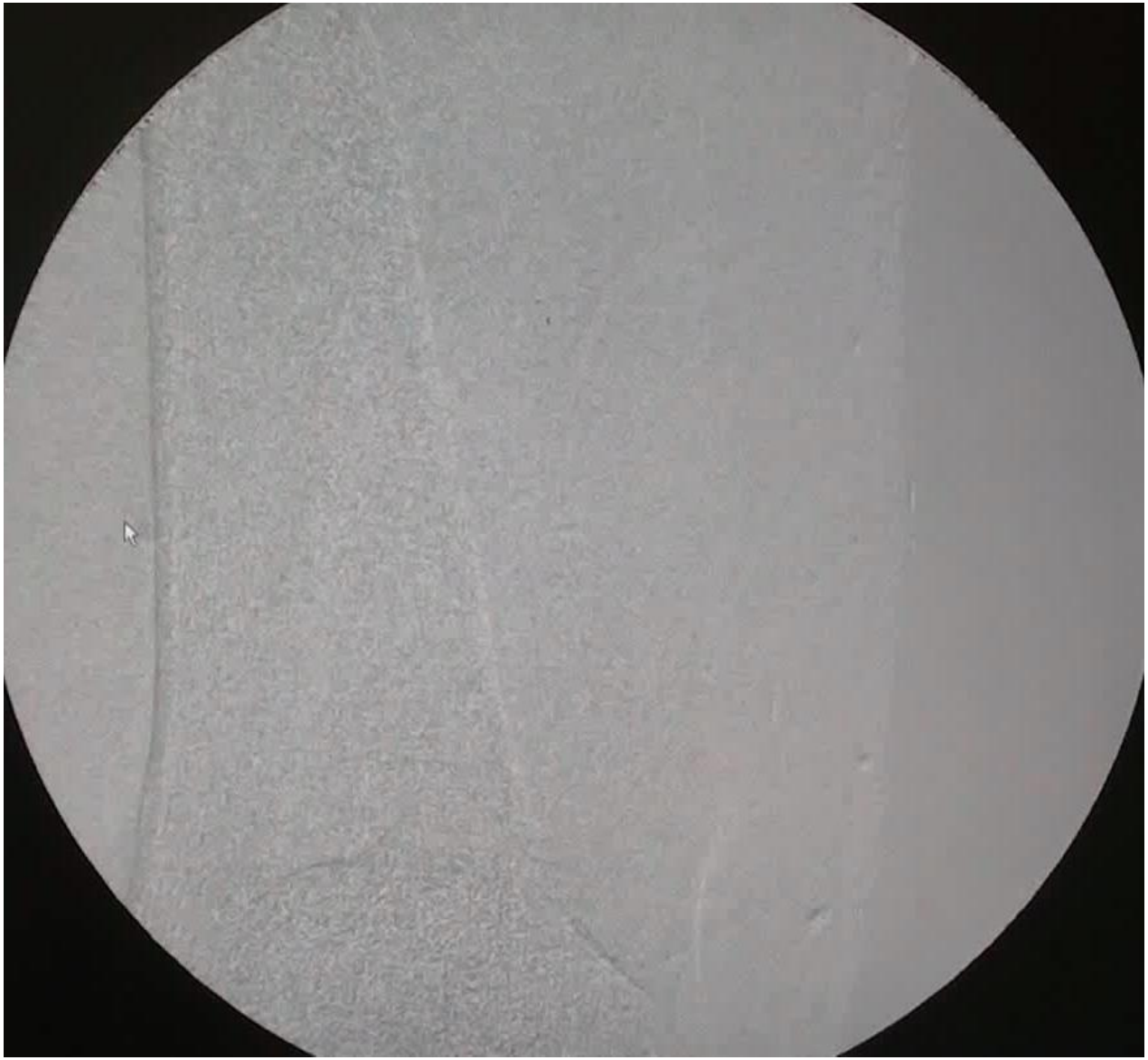

TAKE HOME MESSAGE

- **Combination of debulking by laser atherectomy and DCBs**
  - seems to improve outcomes
  - both in primary lesions and ISR
  - especially in complex lesions (Tosaka class II and III)

→ **INTACT trial now enrolling to confirm the cost-effectiveness ratio**