

Unprotected Left main Lights Out, Game Not Over

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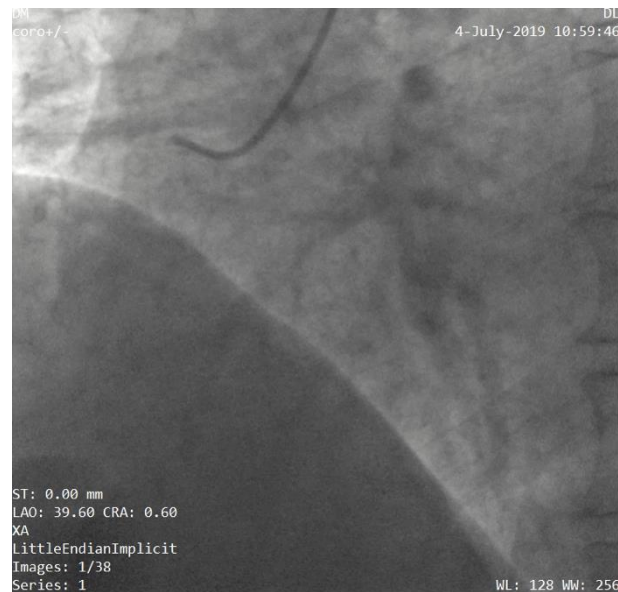
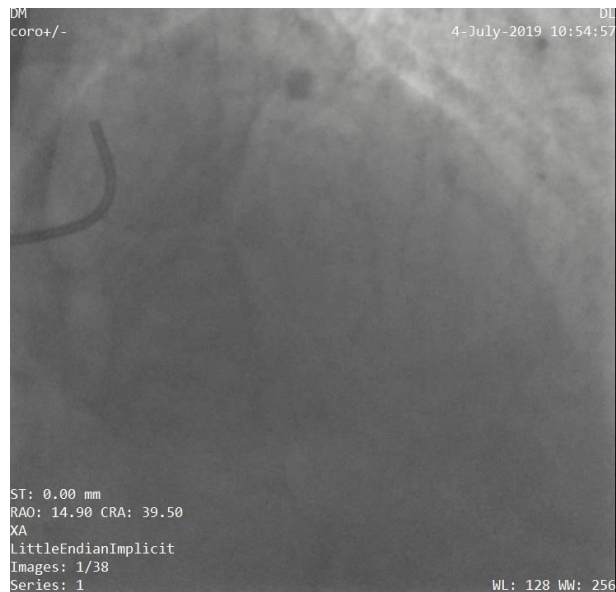
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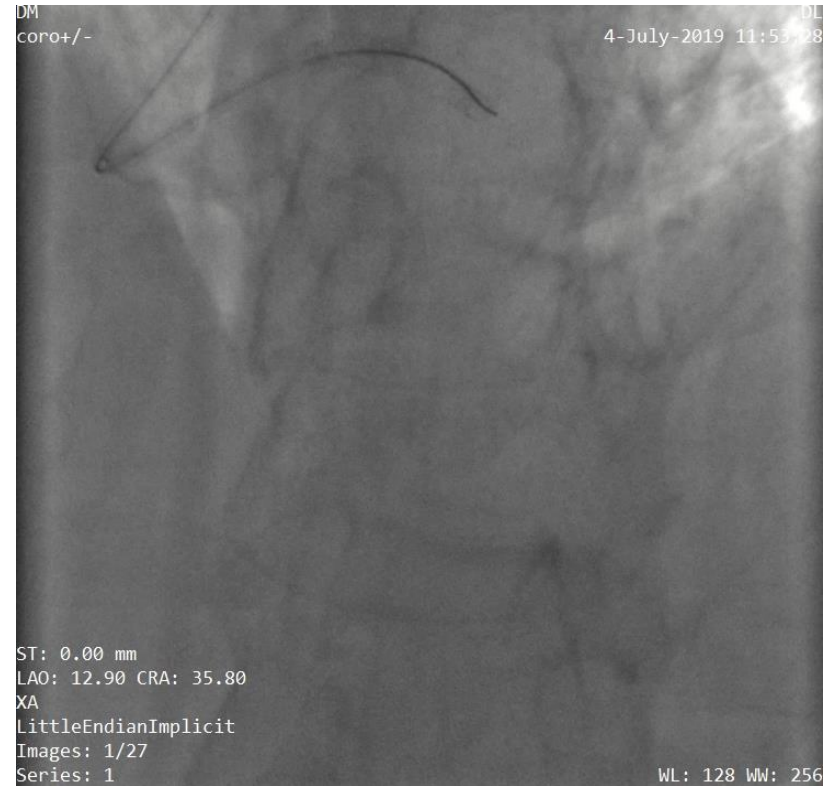
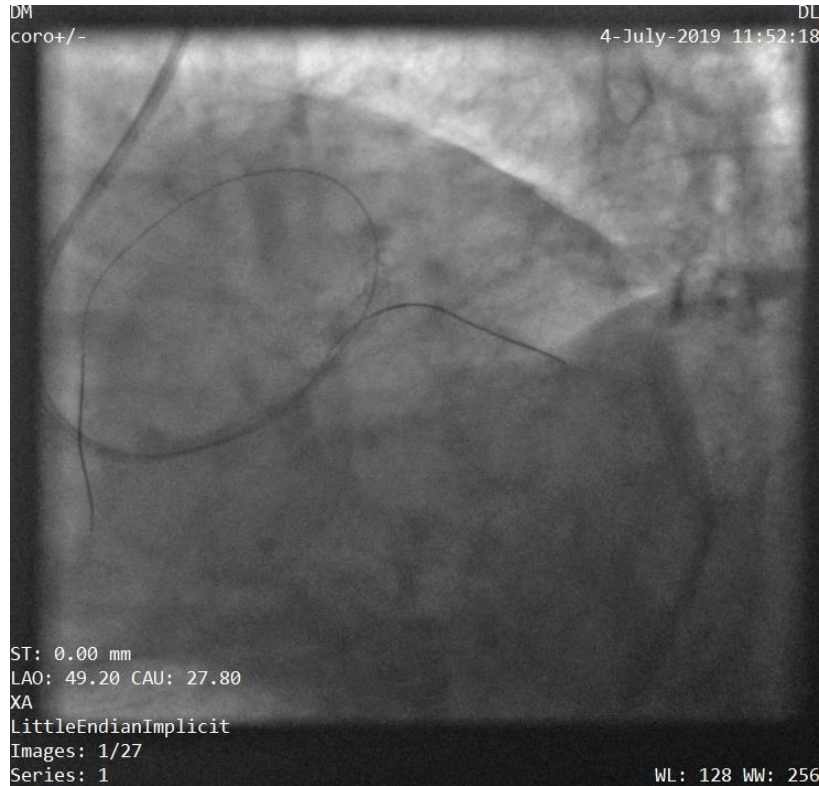
Patient's presentation

- **A 51-year-old male** with history of
 - Heavy smoking
 - Type 2 diabetes
 - **Known CAD** : NSTEMI in 2019 with left main tight stenosis : PCI with **LM-LAD DES**, LVEF of 47%.
- Since, **no follow-up, no treatment adherence and continuing smoking**
- Presented to our clinics with **2 months worsening dyspnea**
- Physical exam was normal

2019 coronary angiogram

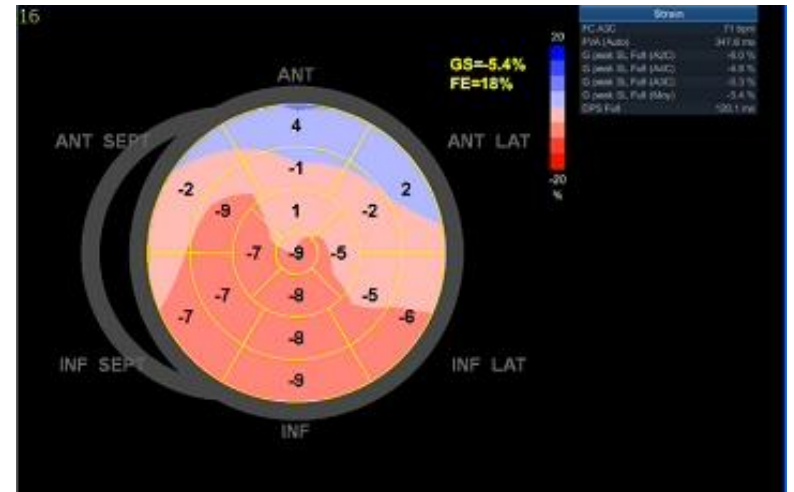
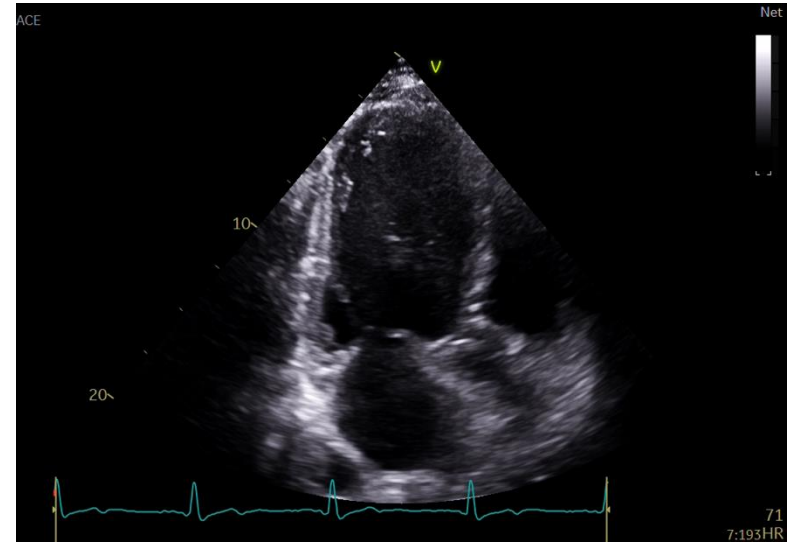
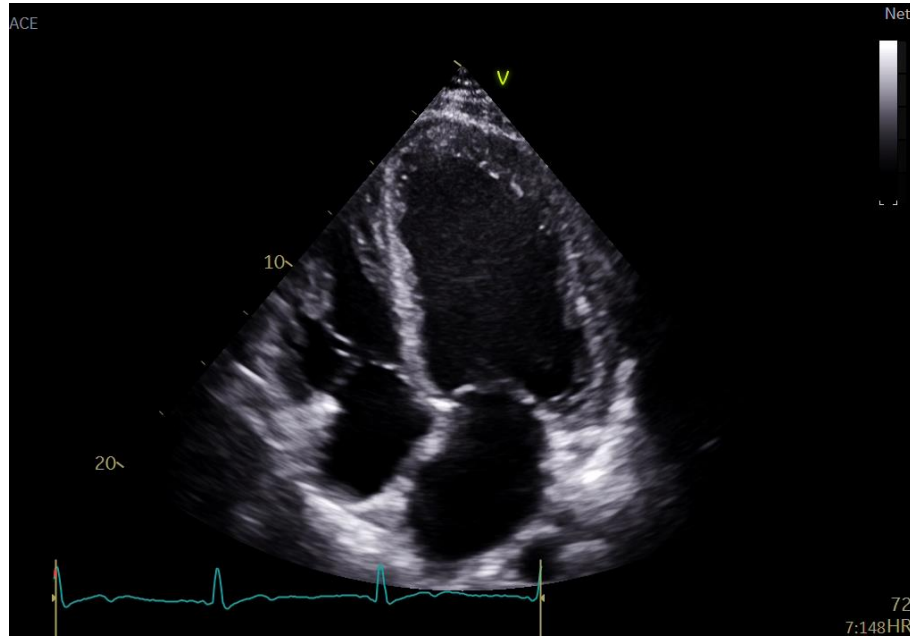


PCI of the left main, satisfactory result

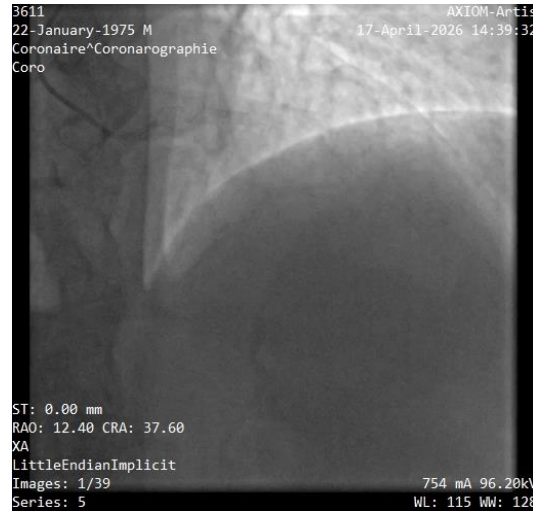


TTE (current episode):

Severely impaired LVEF of 10% with global hypokinesia, high filling pressure and no valvular disease



Diagnosis (Coronary angiogram)



- **LM in stent ostial CTO** with ipsilateral collaterals filling especially the LCX
- **J-CTO score: 2** but high jeopardized myocardium
- **Patent RCA**, no significant disease, non connecting septal collaterals to left system

Heart Team concertation

→ **CABG** taken into account the anatomical complexity but very poor LVEF with high-risk surgery and general anesthesia .

→ Very high-risk **LM-CTO PCI** under vasopressor/inotropic drugs (no short term MCS device available) ?

→ **No revascularization**, HF management therapy and rediscuss LVAD/Heart transplantation but risky strategy ?

Procedure details

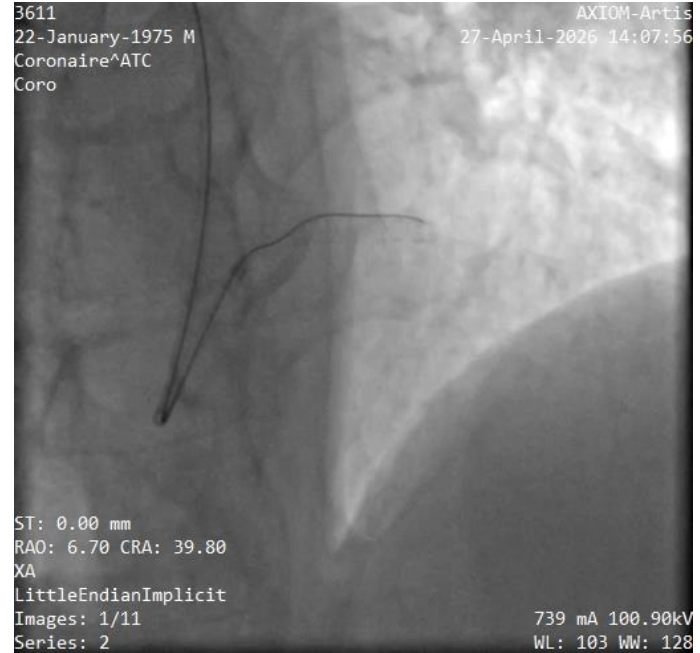
- **PCI strategy :**

- Antegrade wire escalation if failed retrograde approach via septal surfing
- 7FR EBU 3.75 and 7FR AL1 for dual injection
- Norepinephrine and dobutamine infusion (BP from 80/60 mmHg to 100/70 mmHg)
- ➔ Dual injection was poorly tolerated (after AL1 and even JR4 RCA intubation) with drop of BP and multiples NSVT.

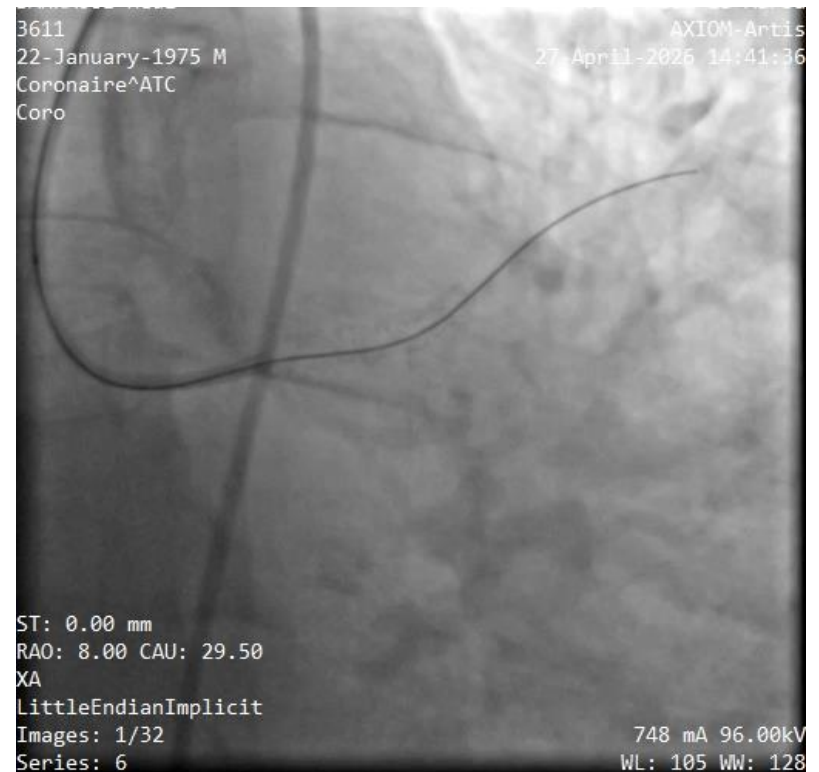
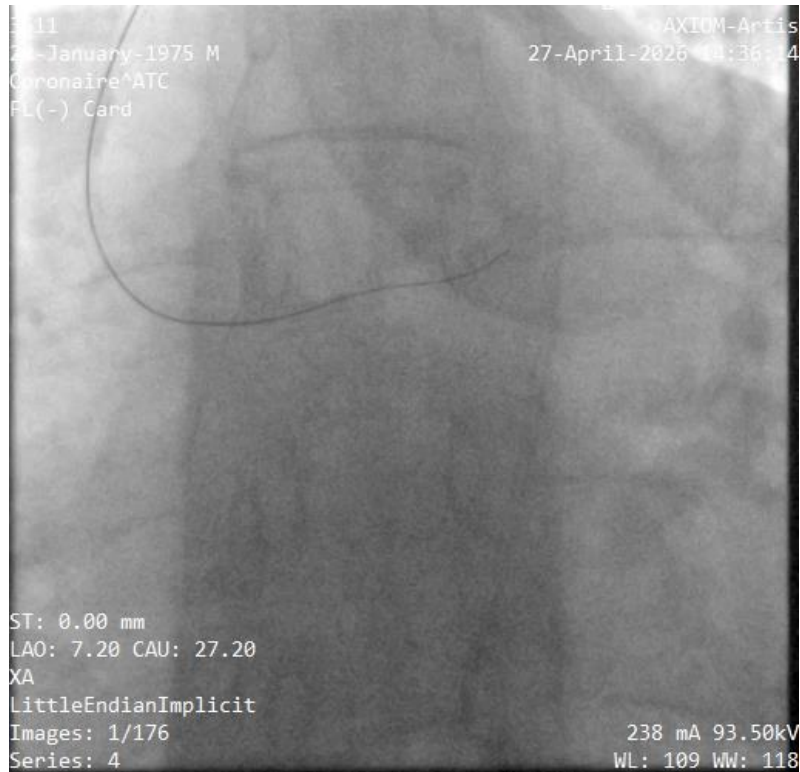
- Femoral single EBU 3.75 7FR
- Wire crossing guided by stent struts and prior angiogram (2019) as reference /Pronavi 1.9 microcatheter



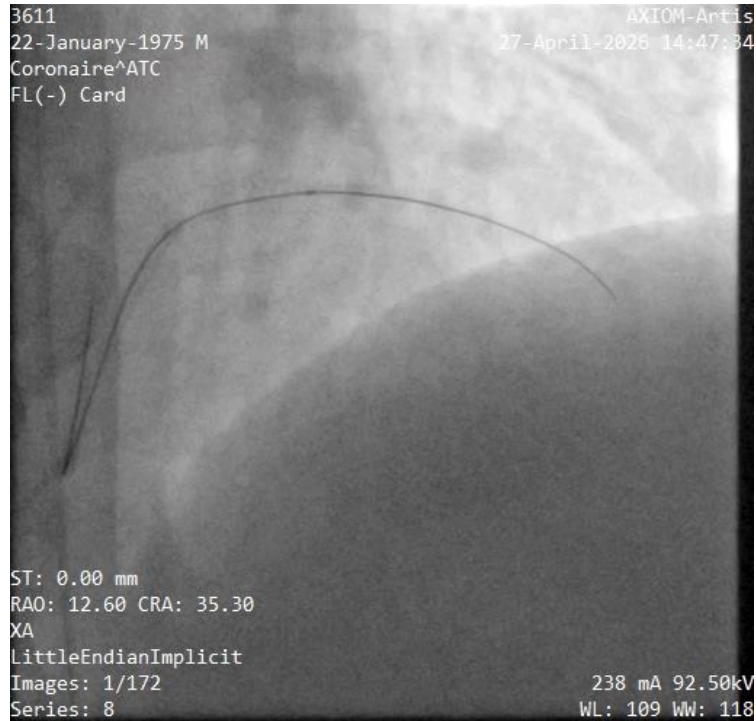
Fielder XT-A and Gladius Ex
failed to engage the lesion



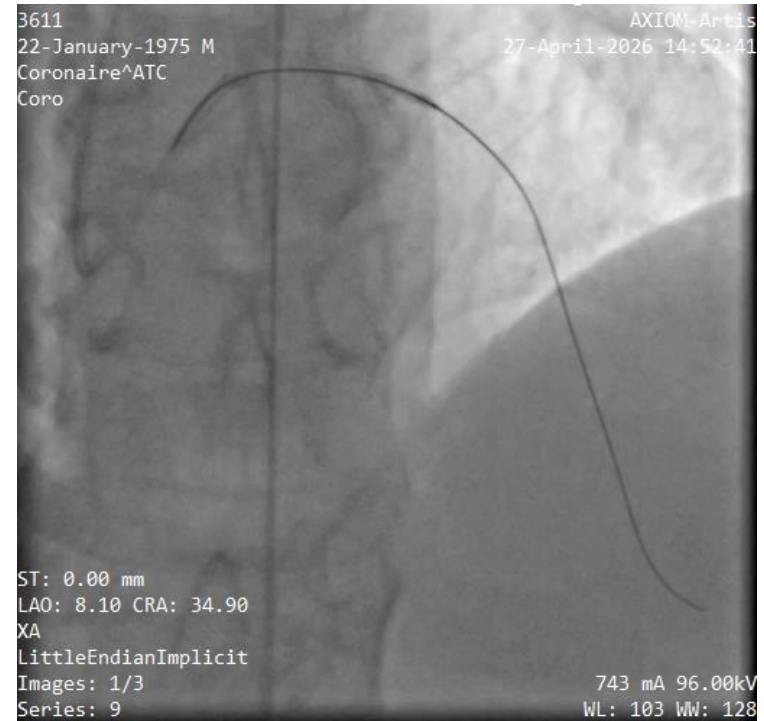
Gaia Next 2 advanced but sub
struts course



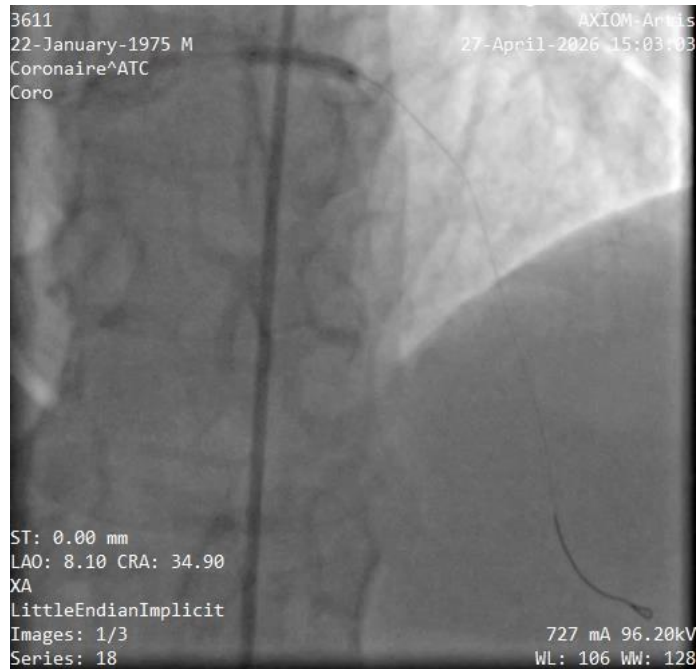
Parallel wire technique with successful **Conquest Pro 9** crossing through stent struts but microcatheter could not advance



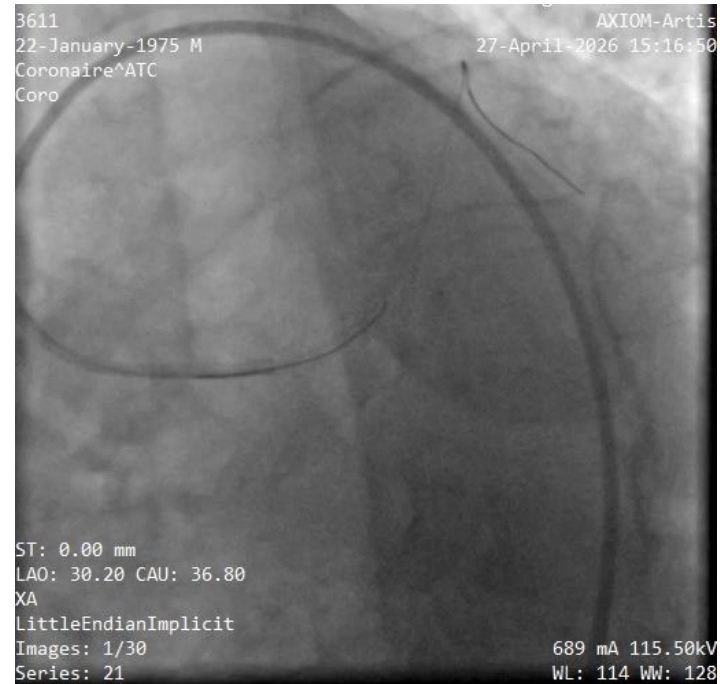
CP 9 inserted distally in the big diagonal
(guided by 2019 reference exam)



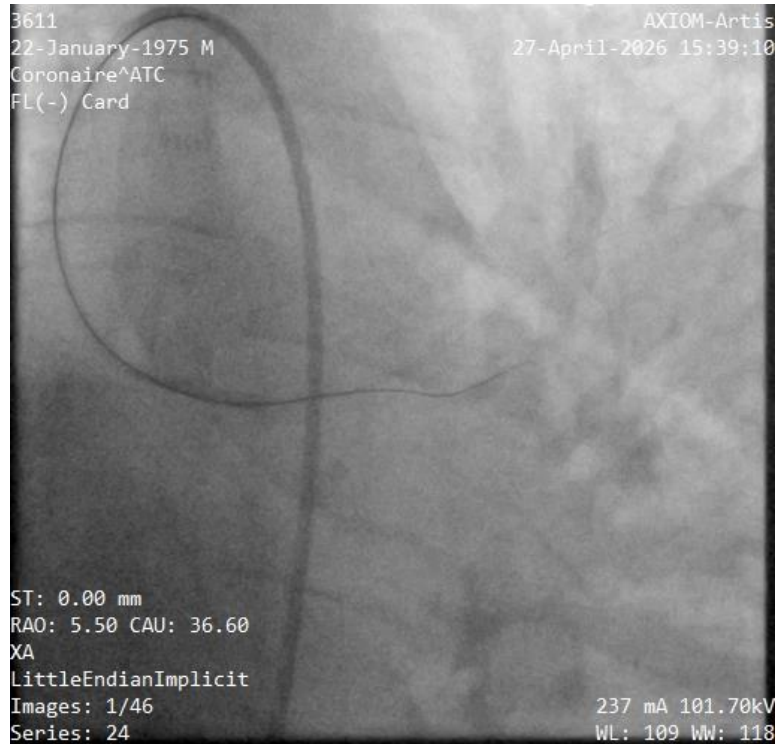
Microcatheter withdraw and 0.7 mm
Balloon failed to cross the stent either
➔ Wedge balloon then Grendoplasty to
rescue : successful



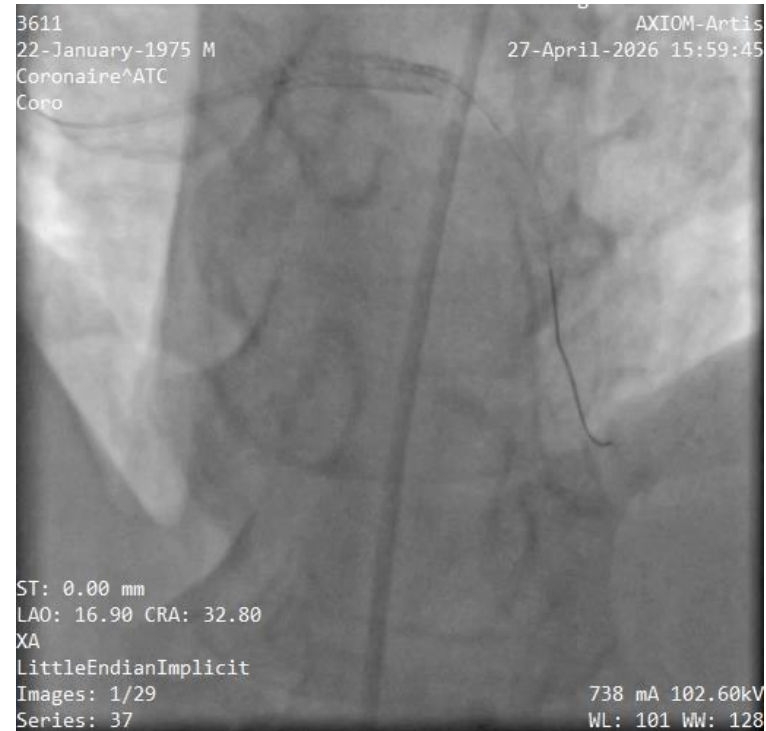
CP 9 exchanged to workhorse wire
Multiple NC balloon inflations
achieving TIMI 3 flow in the
LAD/Dg



LCX remains occluded after plaque shift
Sion black, Fielder XTA failed to recross
LM old stent despite optimal preparation

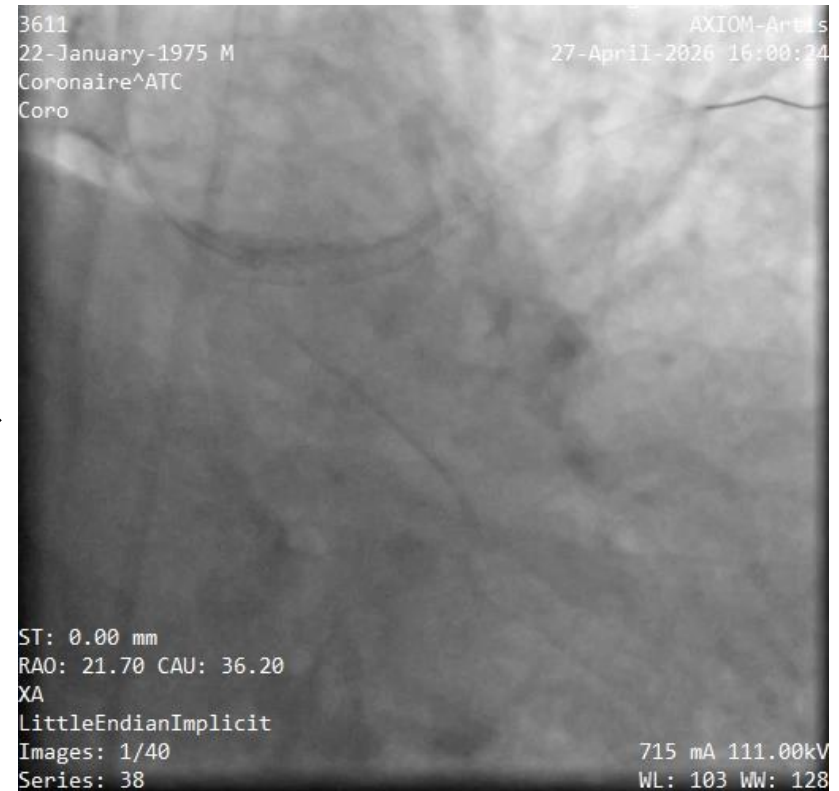


**Successful recorss with GAIA Next 2
LCX ostial recanalization with 2.5 NC
balloon**



**Provisional LM-LAD 3.5*28 mm DES
POT with NC 4.5*10 mm achieving a
satisfactory result in all left system
branches**

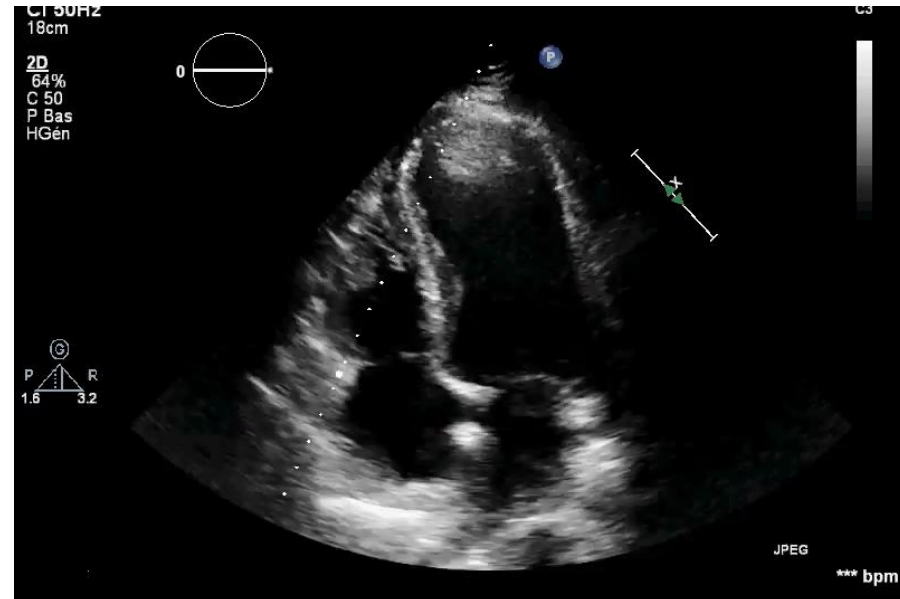
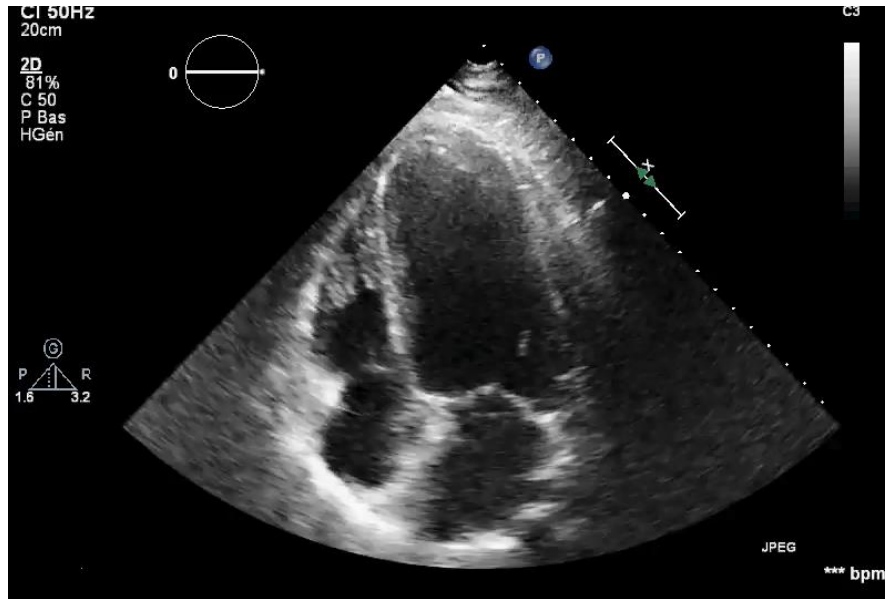
Game not over, all players still in the ground



Satisfactory final result, vasopressor withdrawal in the Cath lab
Post procedure was uneventful

Procedure outcome

- **Follow-up at 1 month** : Asymptomatic, LVEF improved reaching 25%
- **Follow-up at 3 months**: Remains asymptomatic with LVEF of 35/40%



Take Home Message

- In stent LM CTO is an extremely unexpected condition
- A very challenging situation even for the most experienced interventional cardiologist
- To our knowledge, this is **the first reported case on in stent unprotected LM CTO**
- **HF and poor LVEF** were the key for diagnosis
- **AWE** is a safe option being guided by the stent layout and the prior angiogram
- The extent of jeopardized myocardium in such cases predicts **improvement of LVEF** after recanalization.