Flow-limiting spontaneous coronary dissection: how to avoid full metal jacket

PCI in SCAD is challenging with low success rate

Challenges during PCI in SCAD

- ✓ To advance the wire in the true lumen
- ✓ Hazard of extending the dissection distal and proximal
- ✓ Frequent result in a ''full metal jacket'' in a non atherosclerotic vessel
- ✓ Possible late malapposition after hematoma reabsorption

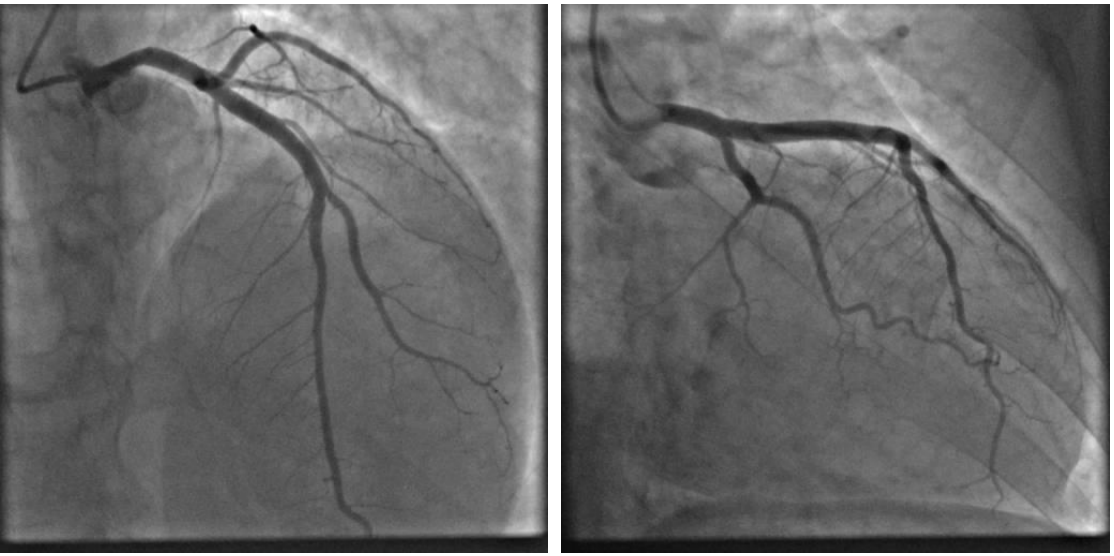
CanSCAD: PCI outcomes

Treatment Strategy [n(%)]	N=750
Treatment strategy	
Conservative	632 (84.3%)
Fibrinolysis	11 (1.5%)
Revascularization (PCI or CABG)	110 (14.7%)
PCI	106 (14.1%)
CABG	5 (0.7%)
SCAD PCI Procedures & Outcomes	N=103
Wiring only	15 (14.6%)
Balloon angioplasty	21 (20.4%)
- Cutting balloon	5 (4.9%)
Stent placement	67 (65.0%)
Overall PCI success	
Successful	30 (29.1%)
Partial success	42 (40.8%)
Unsuccessful	31 (30.1%)

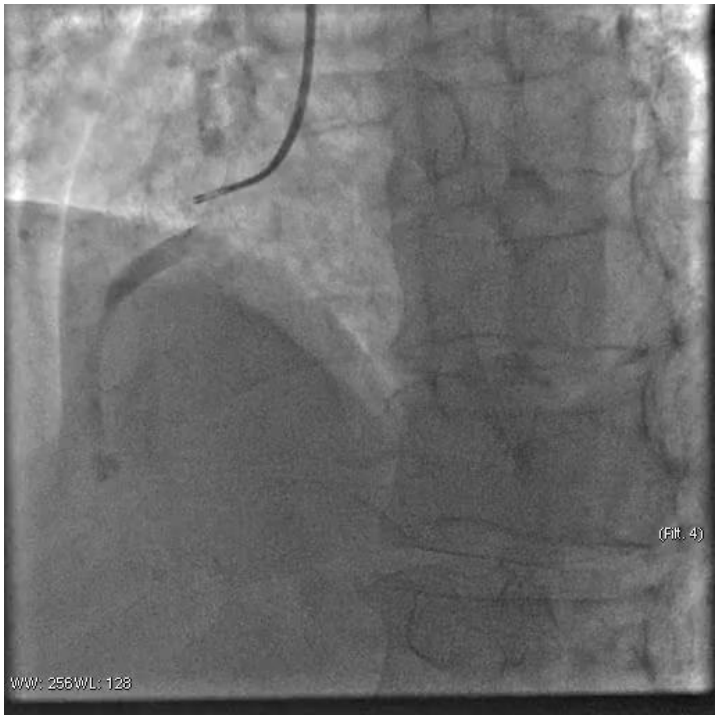
Saw J et al, ESC 2018

Case report: clinical presentation

- 55 years old male carpenter. Hypertension.
- 20 Aug 2019, 30 minutes after an intense isometric effort, prolonged chest pain
- ECG: infero-postero-lateral STEMI. Urgent Coronary angiography

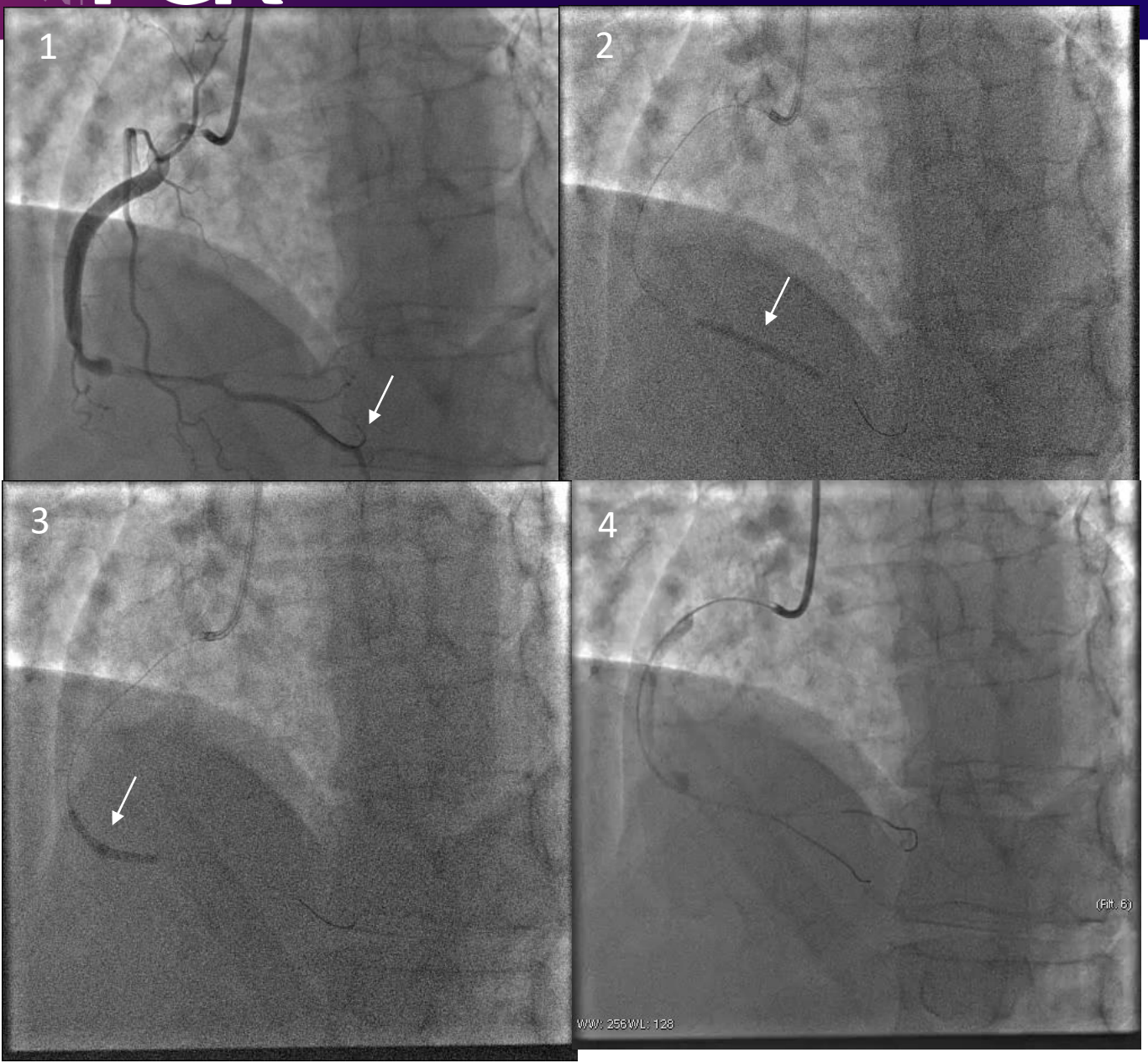


Normal Left coronary.



Huge RCA dissected at mid-distal portion, with minumum distal flow, and large PLV occlusion

Initial treatment



1. Cautious advancement of a HT-Balance wire in the PDA. Distal tip in a septal branch (arrow)

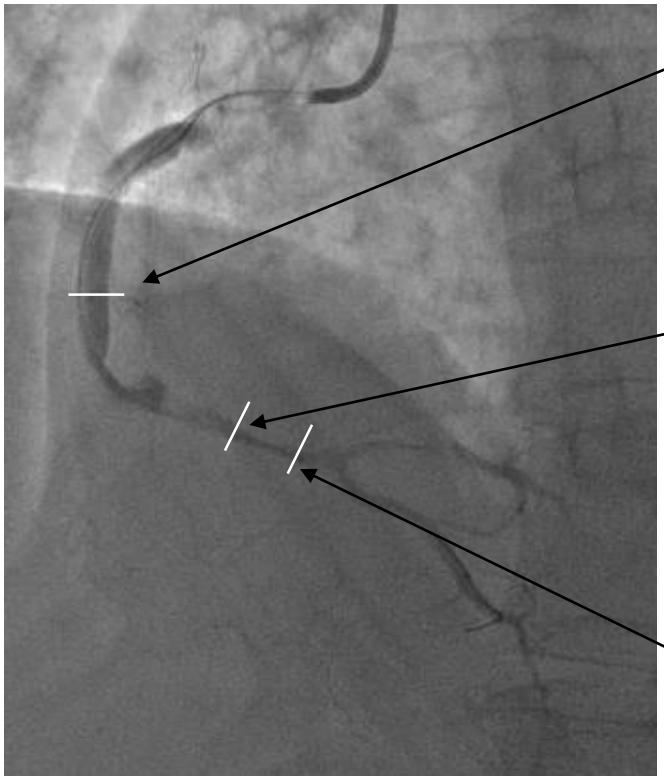
2-3. Low-pressure dilatation (2,5x30 mm - arrows)

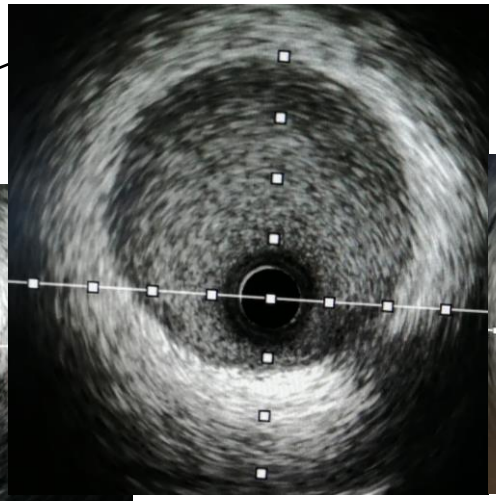
4. Slight flow improvement. Two wires in true lumen

What to do now ?

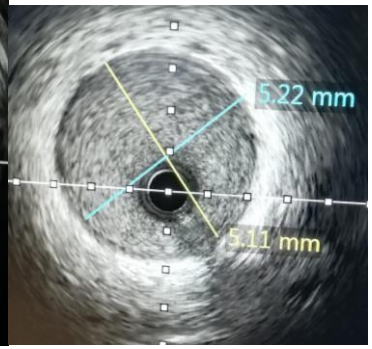
A. To perform an imaging to guide the procedure? IVUS or OCT?
B. Stenting from distal to proximal as in atherosclerotic lesions, in a «full metal jacket» fashion?
C. Haematoma squeezing, with just balloon dilatation?
D. Stenting just the entry point of the dissection and gently ballooning the distal haematoma?

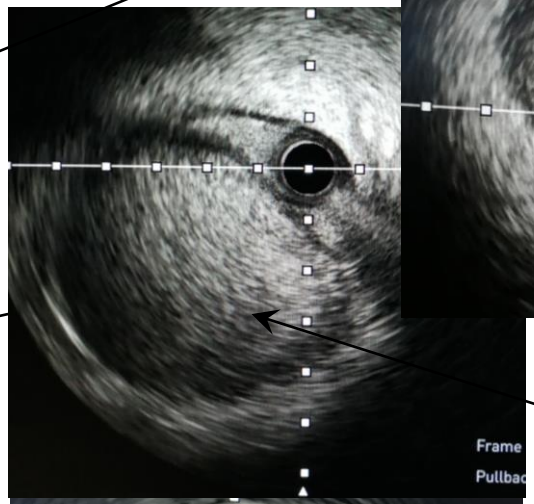
IVUS findings



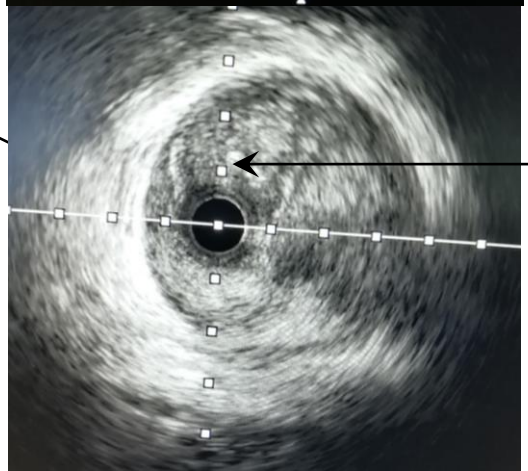


Normal vessel proximal to the dissection



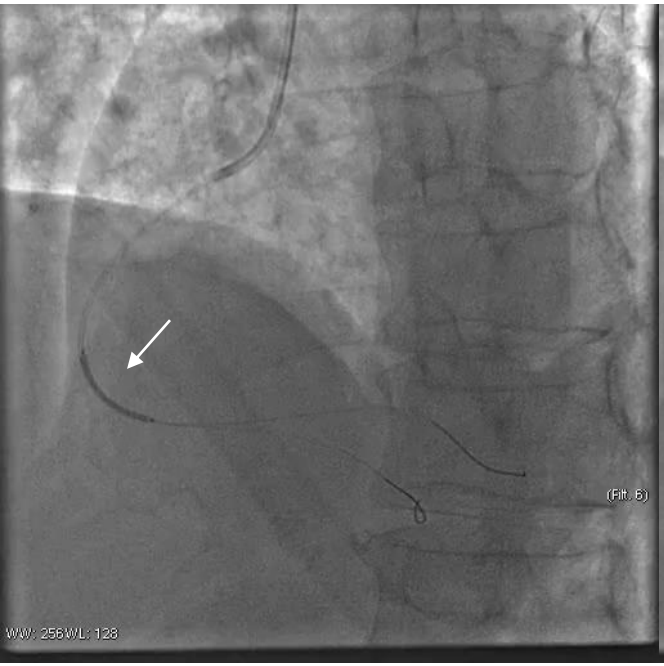


A vast hematoma compresses the true lumen

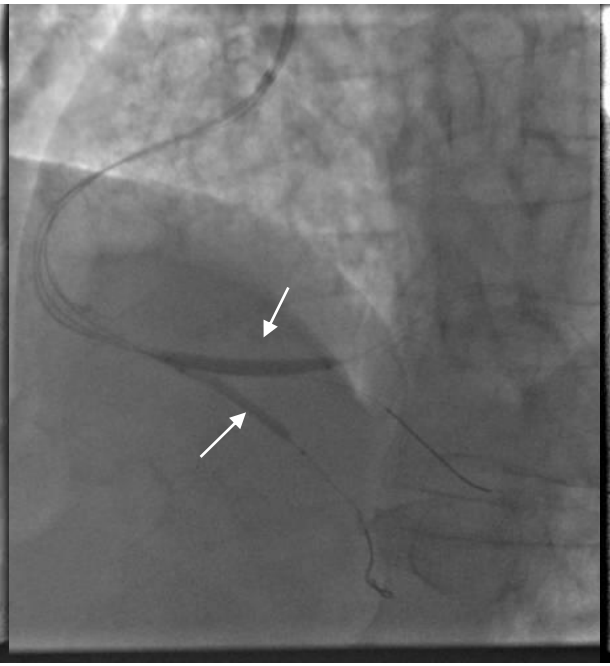


True lumen during contrast medium injection

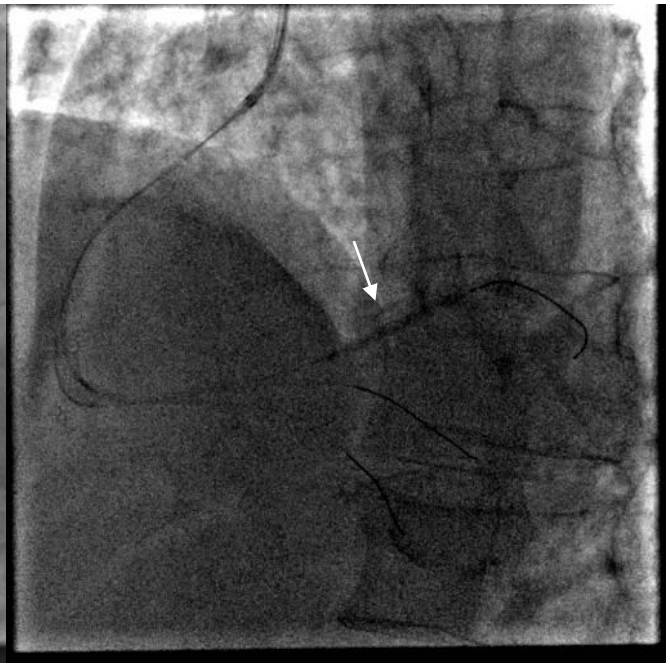
Minimal stenting and extensive balloon dilatation technique



4.5 x 26 mm ZES eluting stent (arrow) at the proximal edge of the dissection

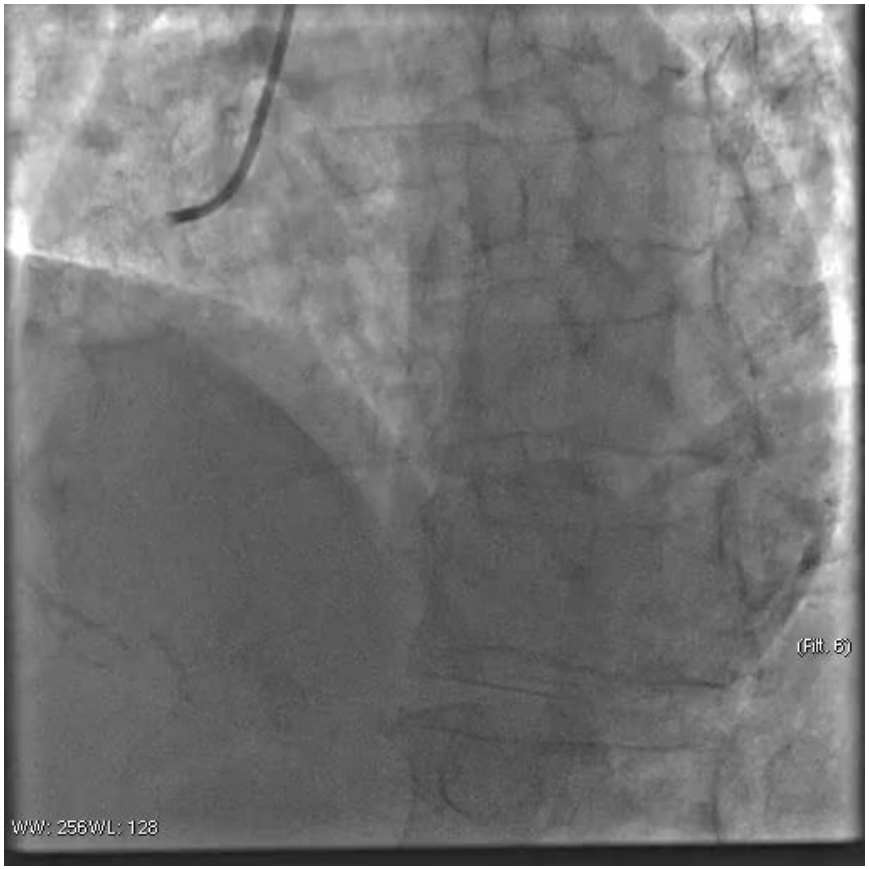


Low-pressure kissing-balloon (arrows) of PLV-PDA bifurcation

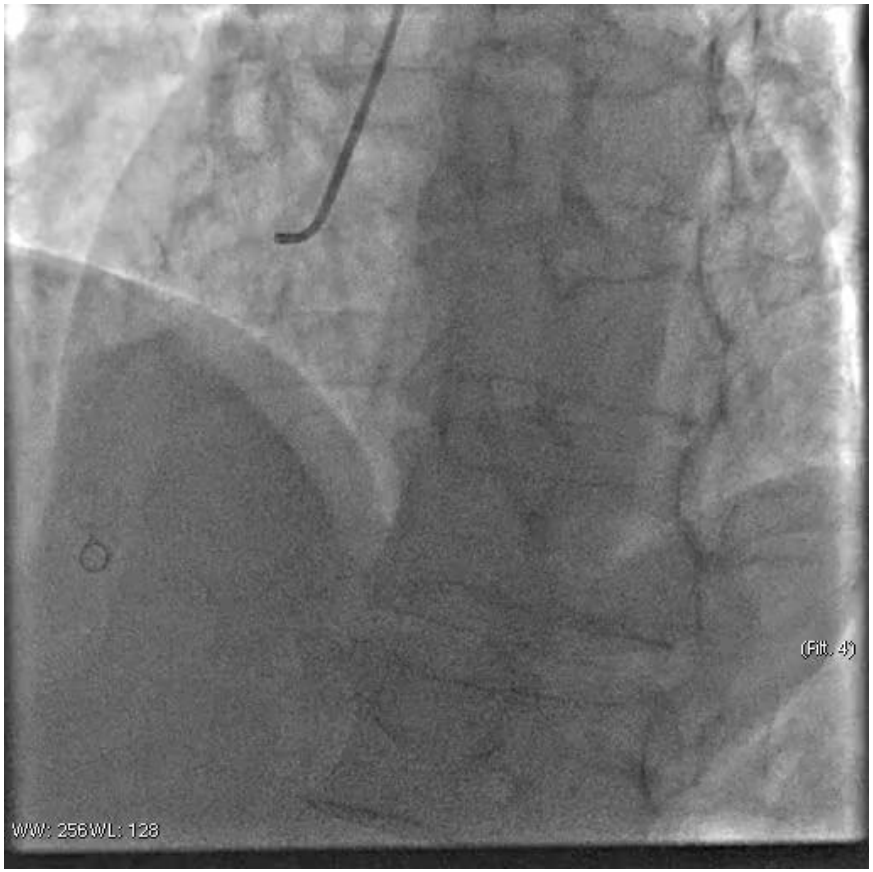


Balloon dilatation (arrow) of the large PLV

Final result and predischarge control



Final result



Seven days later

Conclusions

- ✓ Spontaneous coronary dissections should be treated only when really necessary
- ✓ Imaging can be helpful to understand the dimension of the vessel, the extension of the dissection, the position of the wire in the true/false lumen
- ✓ Whenever possible, avoid to stent all the dissected segment from distal to proximal, like in atherosclerotic lesions
- ✓ Remember that if a normal flow is restored, the hematoma will progressively disappear, with sealing and restitutio ad integrum.