

# Left Main Trifurcation Stenting

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# Main problems

- Due to the progress in the production of instruments for PCI, the indications and possibilities of stenting in multivessel disease are expanding.
- Increasingly, **we are choosing a stenting method rather than CABG**, even with trifurcation lesions of the left coronary artery.
- In case of trifurcation lesion of the LM and the impossibility of performing CABG, at the moment, we do not have enough information to choose the best stenting method, especially its effect in the long-term period.

# Main problems

According to the Pubmed website, several stenting tactics can be distinguished:

- Double stenting (LAD, RI) and balloon dilatation of the third artery (LCx)
- Double stenting without dilatation of the third artery
- Triple stenting (rarely)

We have presented a case of **trifurcation stenting** of the LM with **triple kissing** dilation.

# Clinical history

Patient A. 66 years old, was hospitalized as planned with complaints about of chest pain during exercise (stable angina) pass with the help of taking nitroglycerin, dyspnea.

Increased blood pressure to 190/100 mmHg over the years.

- Diagnosis: Coronary Artery Disease. Stable Angina (Class III). Heart failure I st. Left ventricle chronic aneurism. Hypertension 3 stages, 1 degree, risk 4.

# Test results

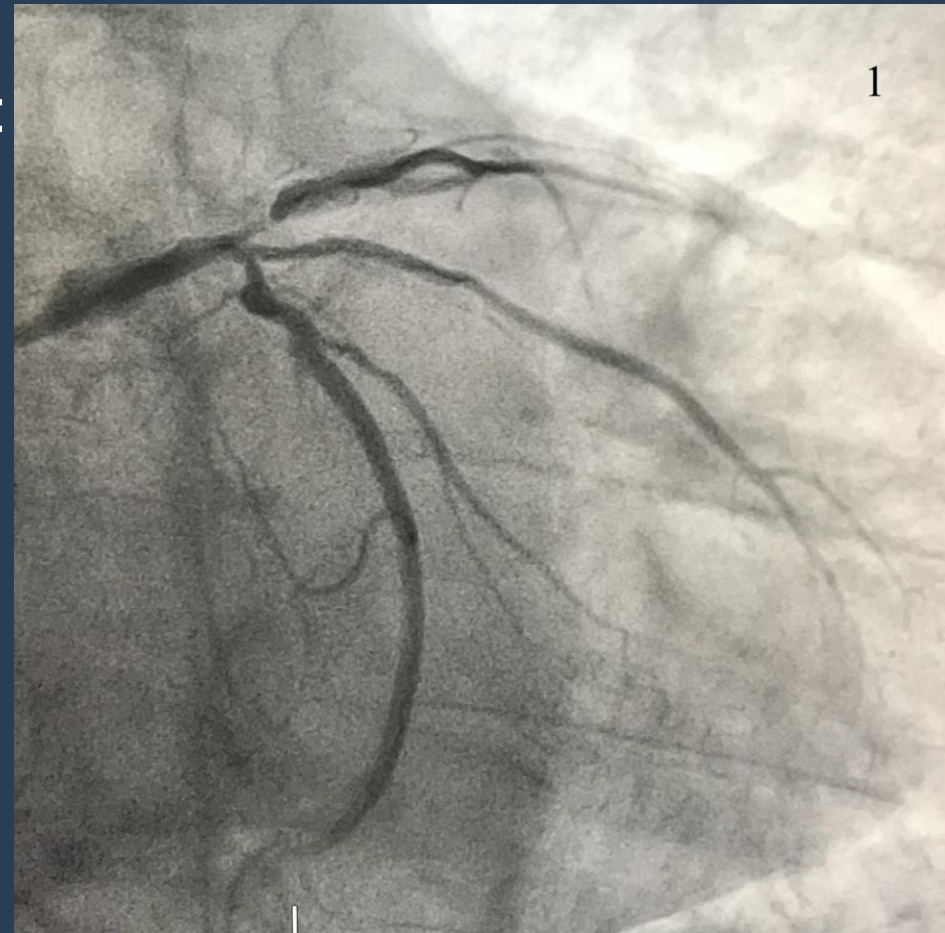
- ECG - sinus rhythm, heart rate 58 beats per minute, scar changes along the lower wall of the LV
- TTE - EF 42%, drop of local LV contractility, hardening of the aorta
- Holter monitoring - within normal limits.

# Cath findings

Trifurcation calcified lesion LM was found:

- LM - 75%; LAD - 90%; RI - 80%;  
LCx - 75- 80% (pic. 1)

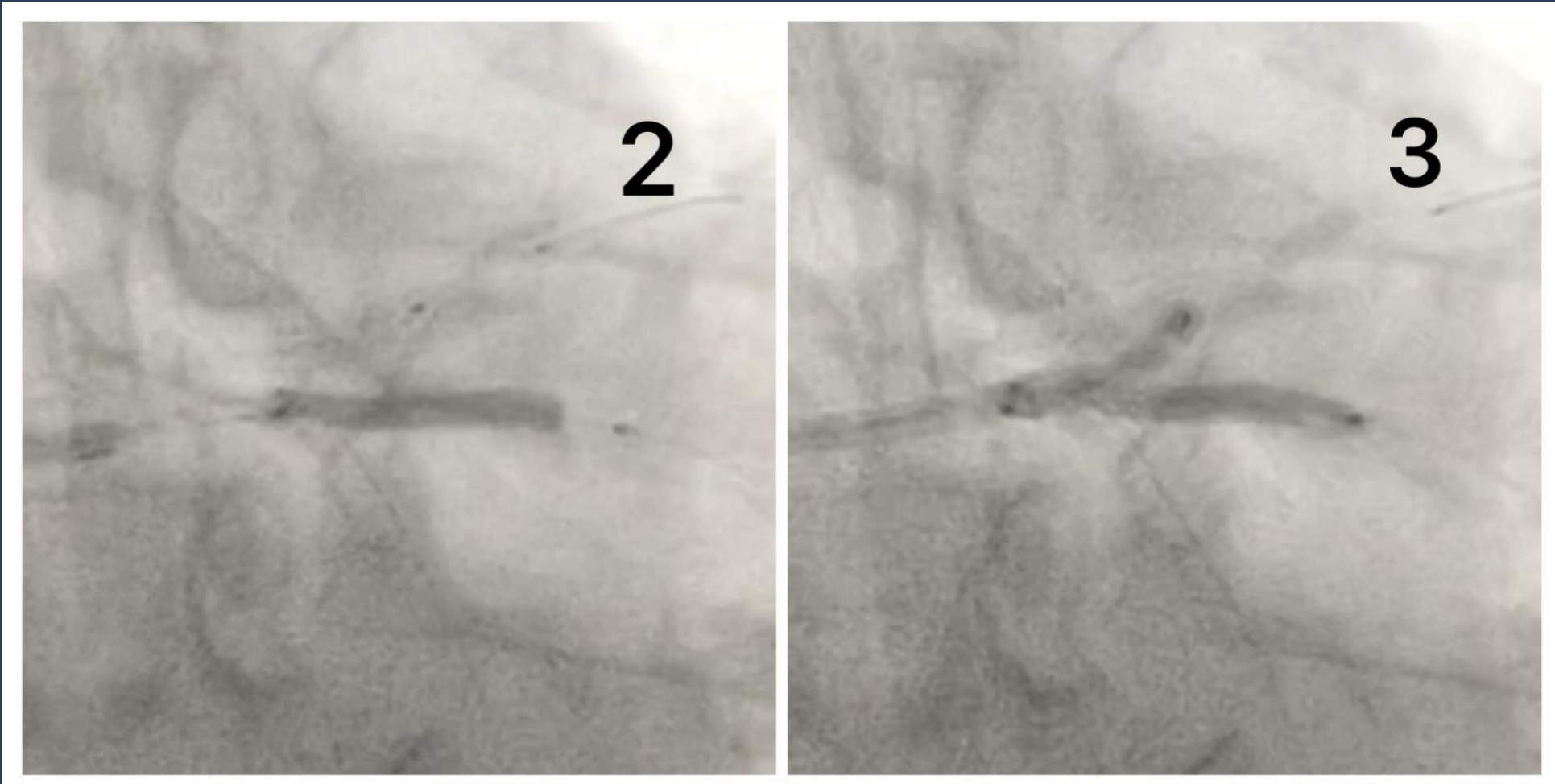
A consultation of the cardiac team was decided to perform CABG, but the patient refused the operation.



# Procedure Steps

- 7Fr introducer
- three coronary wires (LAD, RI, LCx)
- the balloon is 2.5x15mm in the LAD, and the stent is 2.5x22mm in the RI
- A stent was implanted from the orifice of the RI into the proximal third with a slight protrusion of the LM (pic 2)
- Performed Kissing dilatation with pre-limitation of LAD (pic. 3)

# Procedure Steps

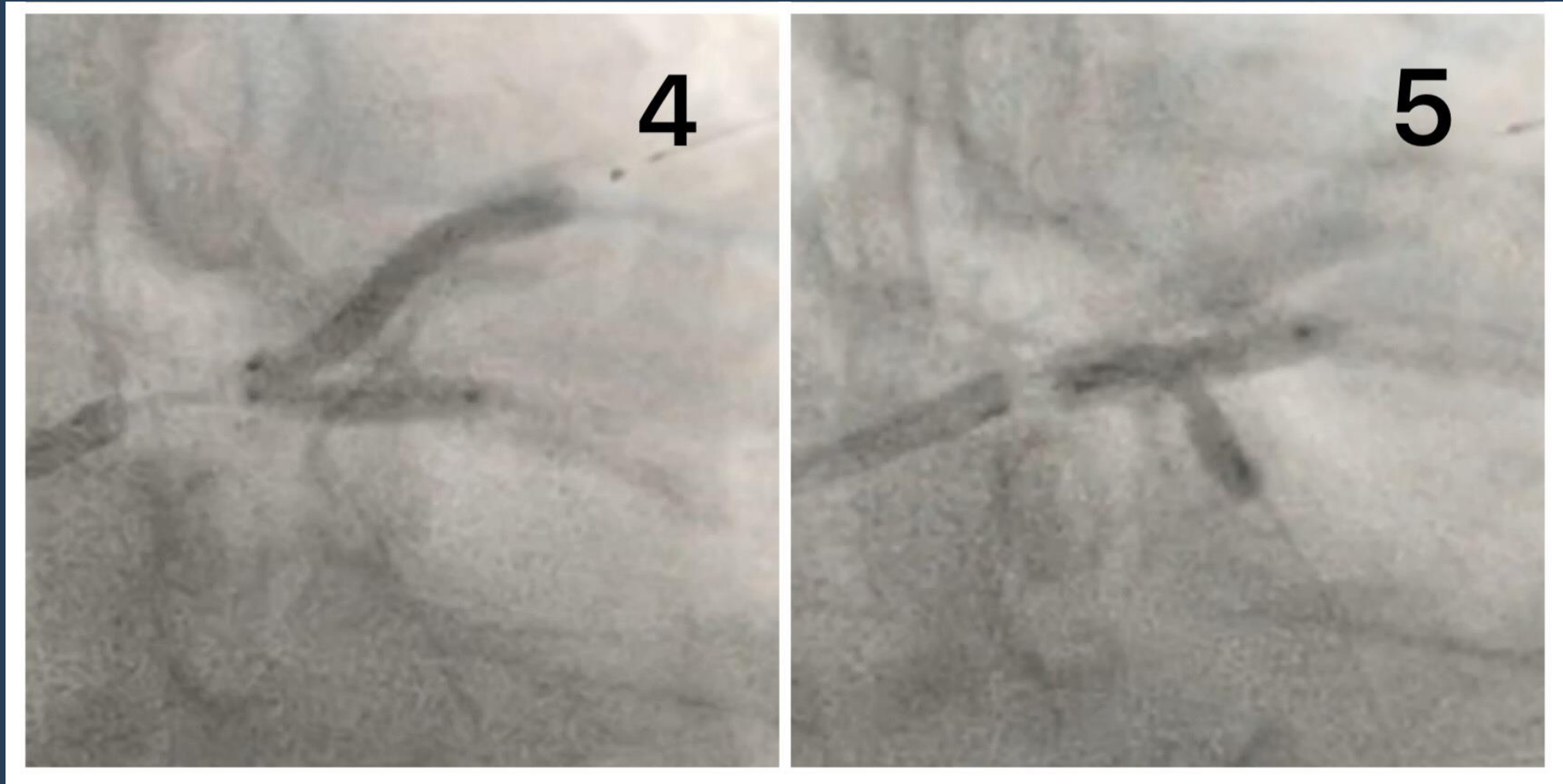




# Procedure Steps

- A 2.75x28mm stent in the LAD, and a 2.5x15mm balloon in the RI.
- A stent was implanted from the LAD with a small outlet into the LM with kissing dilation (pic. 4)
- Recrossing of wires in LCx and RI, followed by kissing dilatation with 2.5x15mm and 2.5x15mm balloons (pic 5)

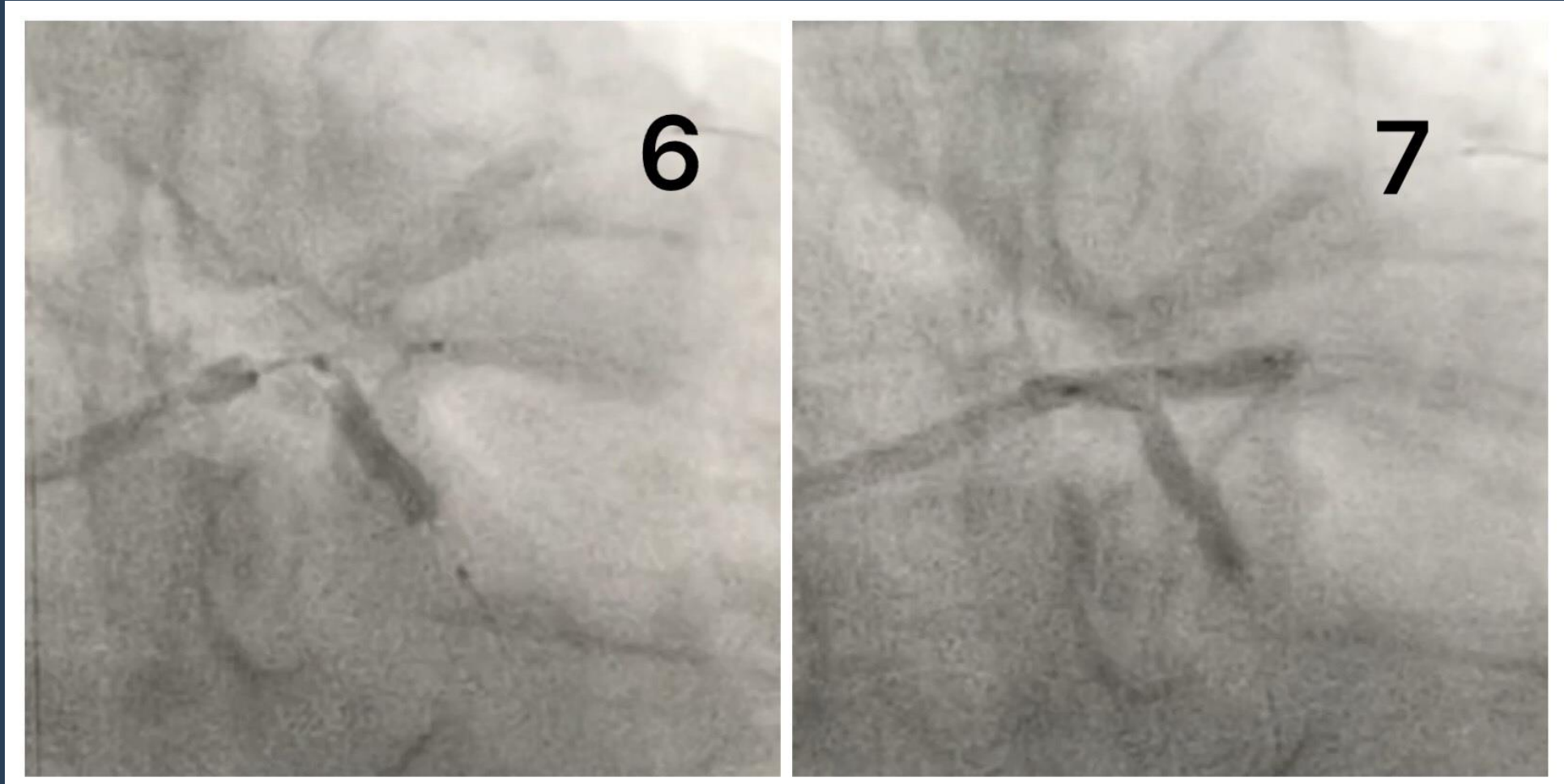
# Procedure Steps



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- Along the wires, the balloon is 2.5x15mm in the RI, and the stent is 2.5x18mm in the LCx.
- The stent was implanted from the ostium of the LCx (pic 6).
- Performed kissing dilatation with RI and LCx (pic 7).

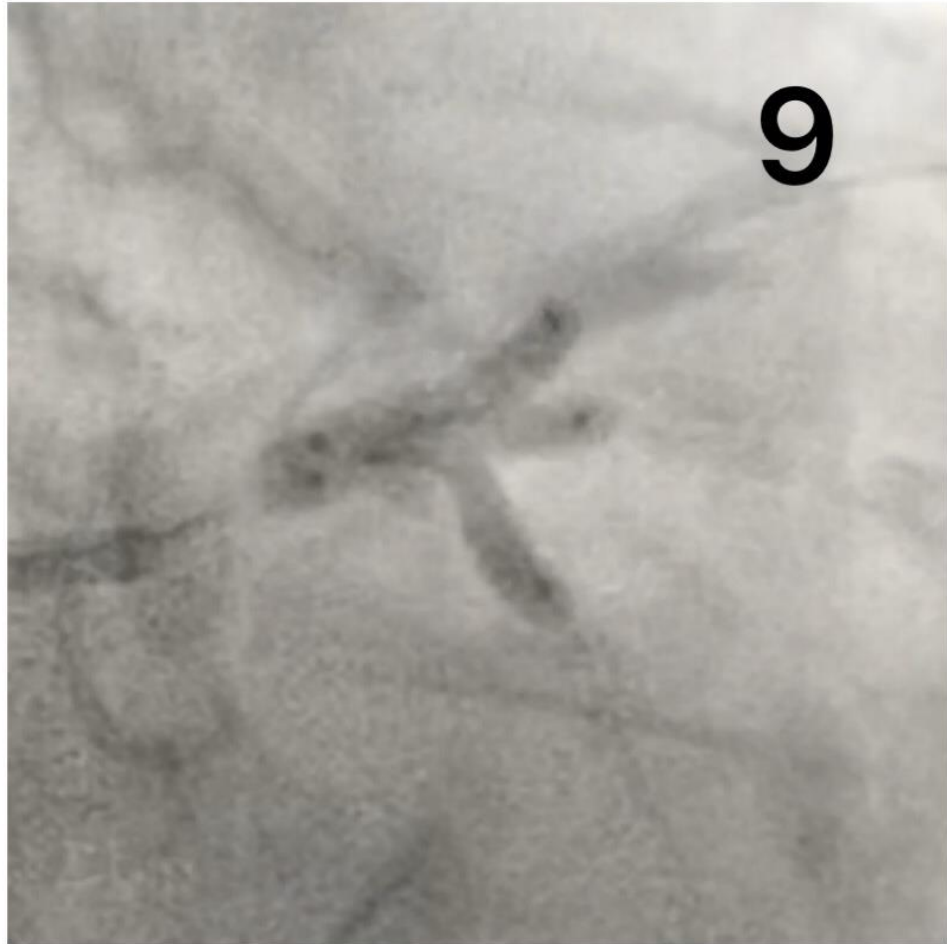
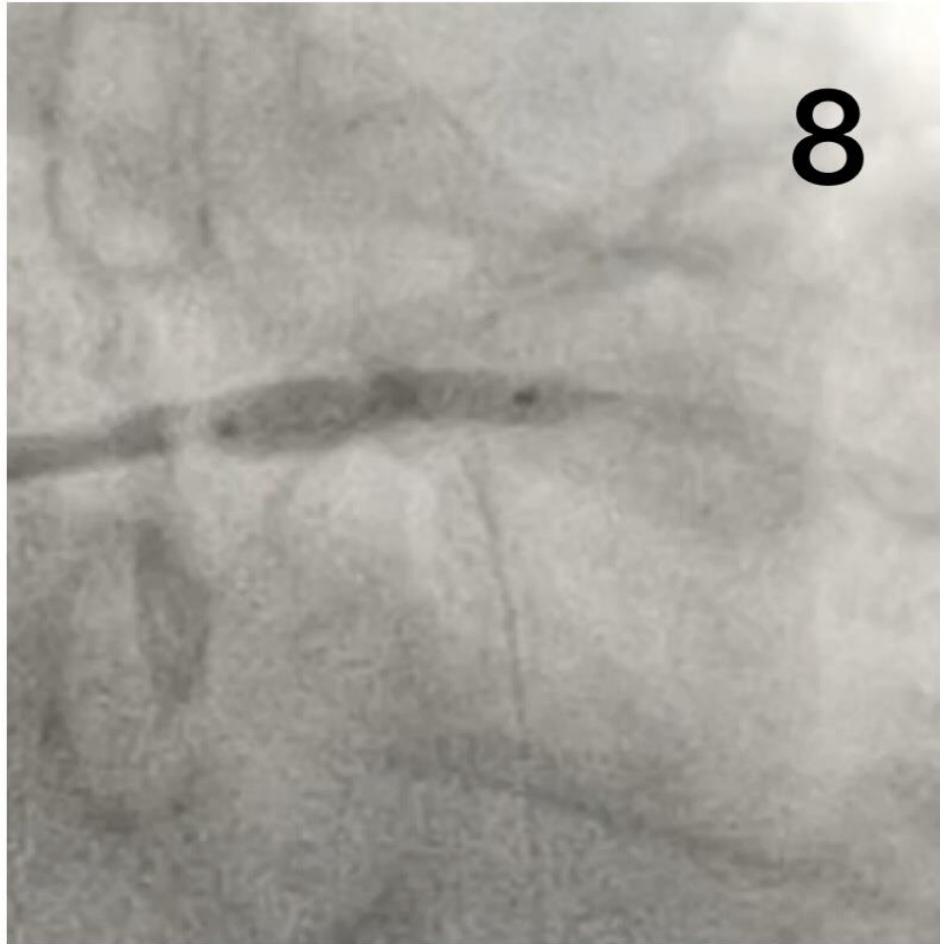
# Procedure Steps



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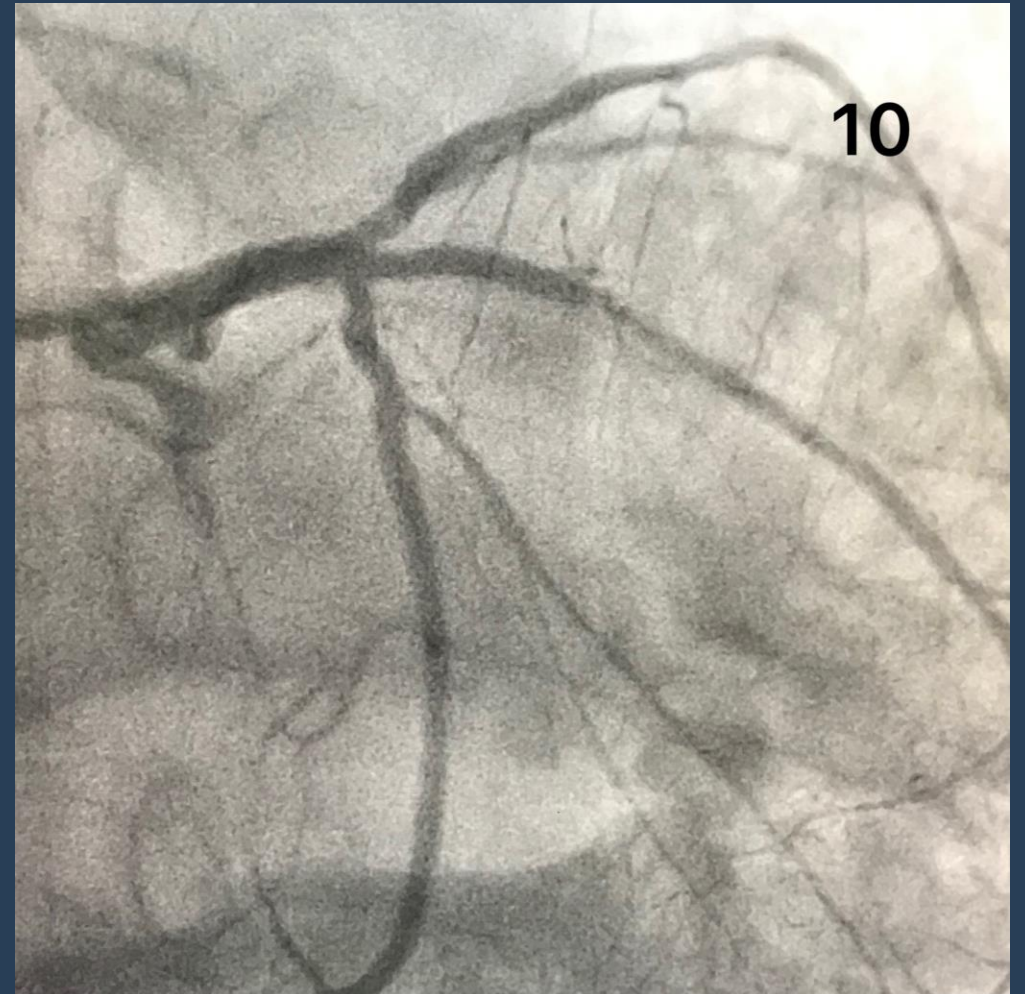
- A 4.0x15mm stent was implanted from the LM into the RI with low pressure (pic 8)
- Recrossing of all wires was performed, followed by triple-kissing with 2.5x15mm (x3) balloons under high pressure (pic 9)

# Procedure Steps



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Control angiography shows a tight fit of the stents, without signs of dissection and obstruction to blood flow (pic. 10)



# Conclusion

- On the PubMed website, for similar requests for trifurcation stenting (left main triple stenting, trifurcation stenting, trifurcation balloon, triple kiss, left main trifurcation, etc.), an insufficient number of articles on this topic can be noted and, thus, there is not enough information about the correct technique for performing trifurcation stenting
- 7F catheter is quite suitable for this operation
- In this case, the RI diameter allowed us to implant a stent from the LM into the RI, which, in our opinion, is the best choice for the subsequent triple-kissing technique, since the cells expand from different sides.
- The method of trifurcation stenting clearly requires long-term result



**Thank you for your attention!**