Application of Reverse Wire Technique in An Ostial Left Main Total Occlusion with Acute Coronary Syndrome

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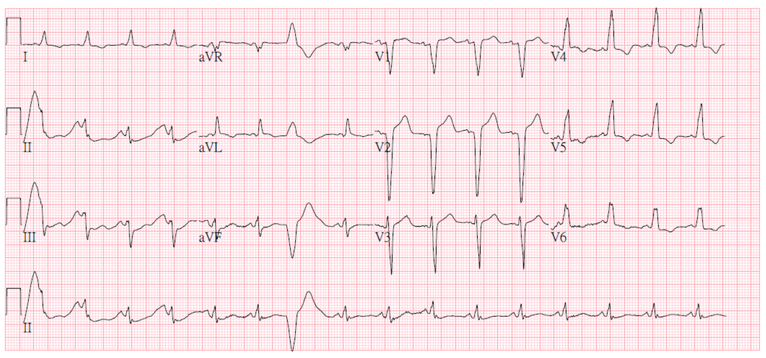
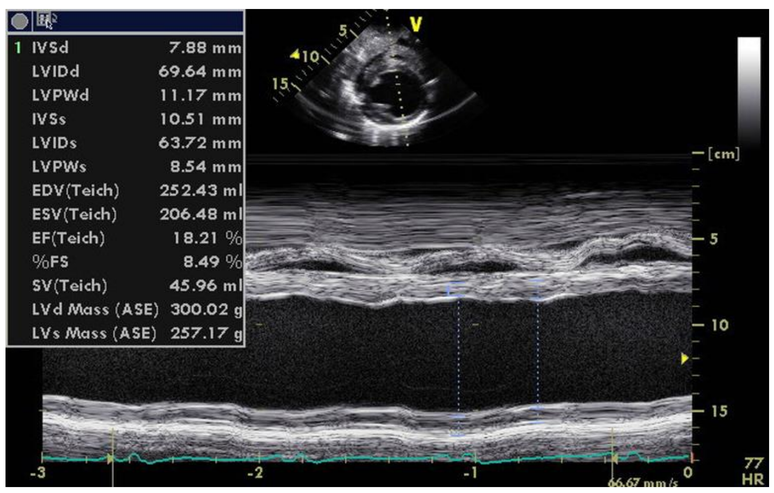
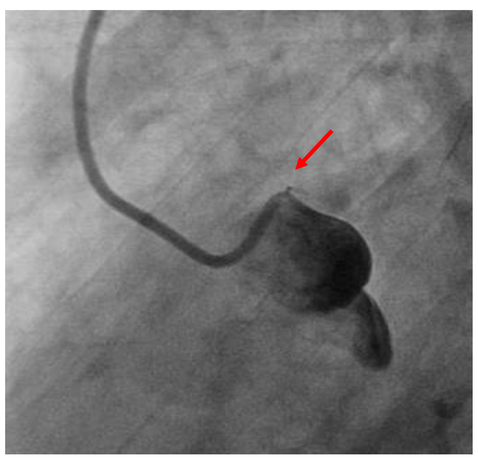
Case Summary

A 68-year-old male without specific CAD risk factors but medical history of tongue SCC (T3N1M0) and syphylis without treatment was sent to our ER due to chest pain with dyspnea and hypotension in shock status. ECG showed LBBB and echocardiography revealed LVEF of 18% with diffuse hypokinesis. Emergent cardiac catheterization was activated and CAG showed ostial LM total occlusion, there was no significant lesion over RCA with collaterals to RCA. For CABG was declined, PCI was performed.





CAG



LM:
Ostial total occlusion
LAD:
Total occlusion
LCX:
Total occlusion
RCA:
No significant lesion
Collaterals:
From RCA to LCA

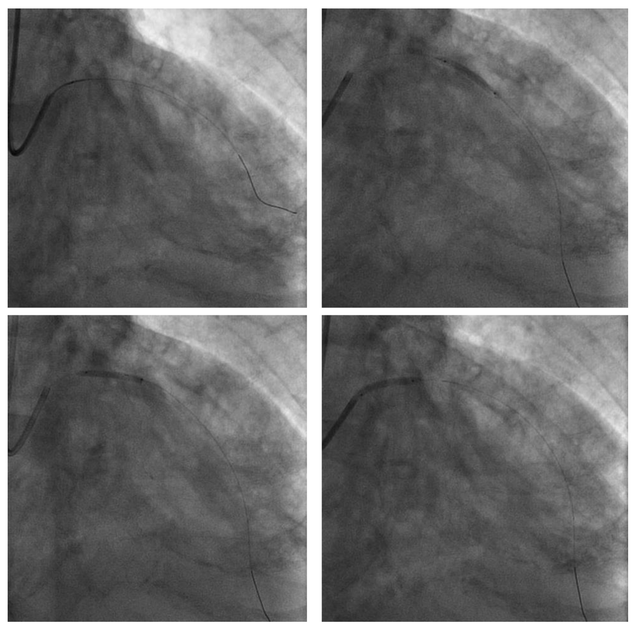
Interventional Management

Procedure Step:

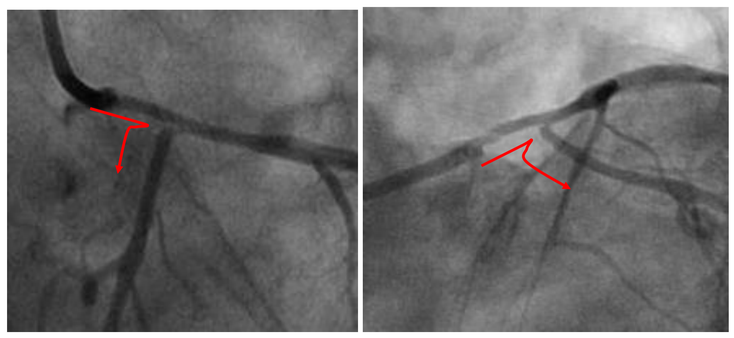
IABP was inserted via right femoral artery first.

A 6Fr EBU3.5 guiding catheter was engaged into the left coronary artery through right radial approach. A 0.014-inch Fielder FC wire was crossed the lesion with a *Corsair catheter* assistance and placed into LAD. The lesions were then dilated with a Sprinter 2.5 X 20 mm balloon. Due to big angulation of ostial LCX, **reverse wire technique** was done with a *Crusade catheter*, and the lesion of LCX was crossed by another 0.014-inch Fielder FC wire, then dilated with the same Sprinter 2.5 X 20 mm balloon. After IVUS study, we deployed a 3.0 X 18 mm Resolute integrity stent at LM to proximal LCX. We inserted an additional 0.014-inch Fielder FC wire to LAD and deployed a 3.0 X 22 mm Resolute integrity stent successfully from ostial LM to proximal LAD with **Culotte technique**. **Kissing ballooning** was performed by using a 3.0 X 12mm NC Sprinter balloon at LM to proximal LAD and a 3.0 X 12 mm NC Sprinter balloon at LM to LCX. **POT** at proximal LM was done with a NC Sprinter 3.5 X 12 mm balloon finally. At the end of the procedure, IVUS study was checked that both stents were well expanded and apposited. Final angiogram showed that the procedure was successful.

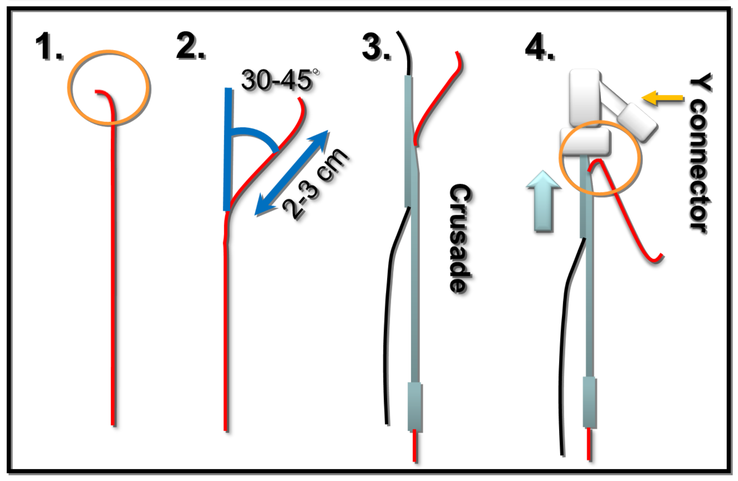
Fielder FC with Corsair; 2.5/20mm balloon



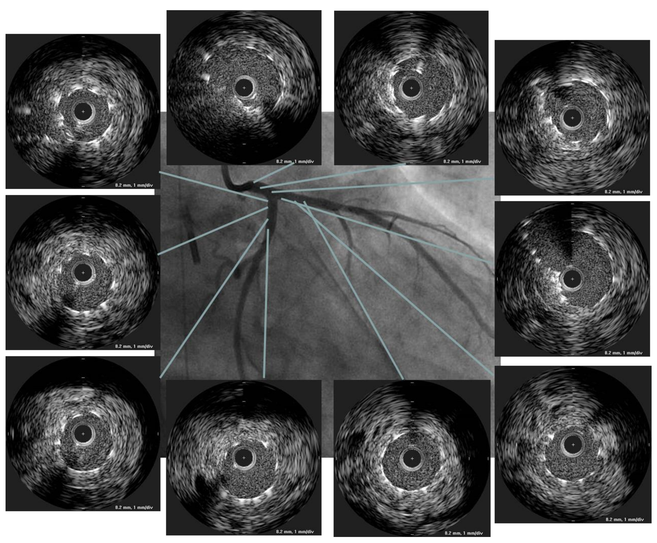
Big angulation over LCX ostium



Reverse Wire Technique



Final result with IVUS s/p Culotte, KBT, POT



Conclusion

- ***Reverse wire technique*** **can be used at wire insertion into an extremely angulated side branch. The first paper was published in Catheter Cardiovasc Interv. 2008;71:73-6.**
- ***Crusade catheter*** **is useful for reverse wire technique and transradial approach is feasible for emergent PCI.** ***Culotte technique*** **can be completed in a** ***6Fr*** **guiding catheter.**