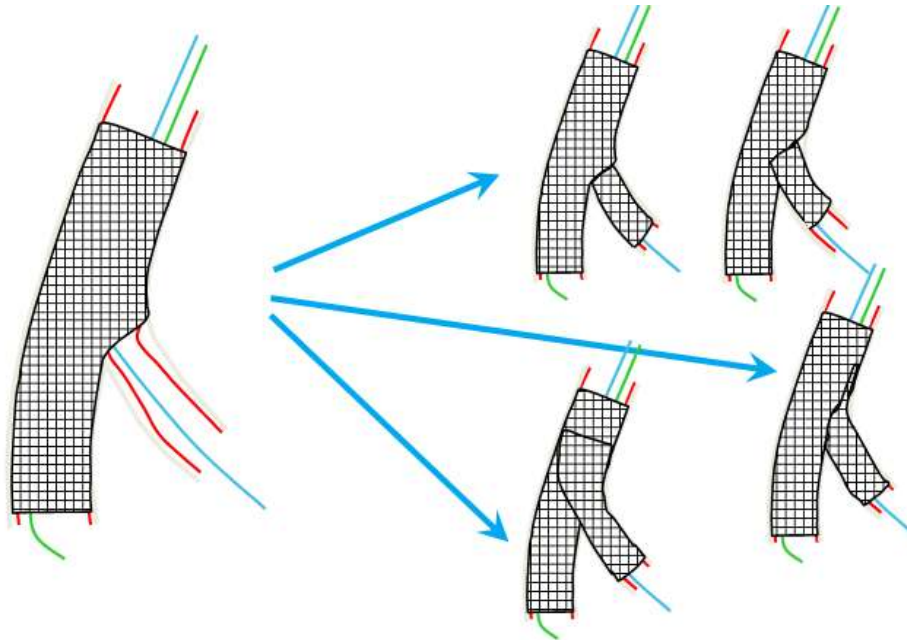


How to Facilitate Implementation of Two Stents in True Bifurcation Lesions

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Why Not Implanting One Stent All The Time As You Can Always Implant A Second One?



- Expected Difficulties: Access across the stent strut
side branch stent position/ strategy
side branch with long lesion/acute angulation
- The selection of the best strategy, when using 2 stents, is best if the decision is made at the beginning rather than as a “bailout”.

True Bifurcation Lesion

Two Wires

No

Yes

Provisional SB Stenting

SB Suitable for Stenting

No

Yes

MV Stenting / SB PCI

SB > 2.75 (2.50), Supplying large Territory, Critical, lesions > 5-10mm, Difficult SB Access

No

Yes

Atherectomy, Rota, Cutting

Atherectomy, Rota, Cutting

Provisional SB Stenting

Two Stents: Crushing, T-stenting, Culotte, Kissing

FFR < 0.8, <TIMI 3 flow,
RS > 70%, Dissection \geq B

Tools/Technique to Facilitate 2-Stent Techniques

- 7F guide with good support
 - XB, EBU
 - Better stent delivery, esp in case of vessel calcification, angulation and tortuosity
 - Allows balloon trapping technique, particularly when using Crusade microcatheter

Tools/Technique to Facilitate 2-Stent Techniques

- Rotablation
 - for heavily calcified or very fibrotic true bifurcation lesion
- Double-lumen (Crusade) Catheter
 - True lumen wiring (no sub-stent)
 - for wiring the SB across the most distal stent strut
- Double kissing technique for culotte/ crushing stenting
 - Facilitate passage of second stent in culotte
 - Facilitate side branch re-wiring through second stent strut in crushing

Case 1

- Debulking in heavily calcified true bifurcation lesion before stenting
 - The role of rotablation
- Liu Yu Baozhu, 1504888B, 100/08/13
 - Rota → culotte for LAD



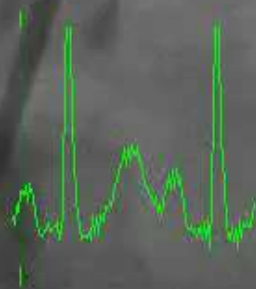
LIU YOU, BAO-JU
05 Feb 1934
001504888B

VGHTC-CATH02
LEE, WEN-LING_0068E
13 Aug 2011
09:04:24

LIU YOU, BAO-JU
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001504888B

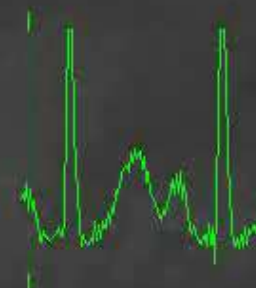
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LAO 26.10 CRA 35.80
Zoom (1.000x)



C:112 W:226
1/71

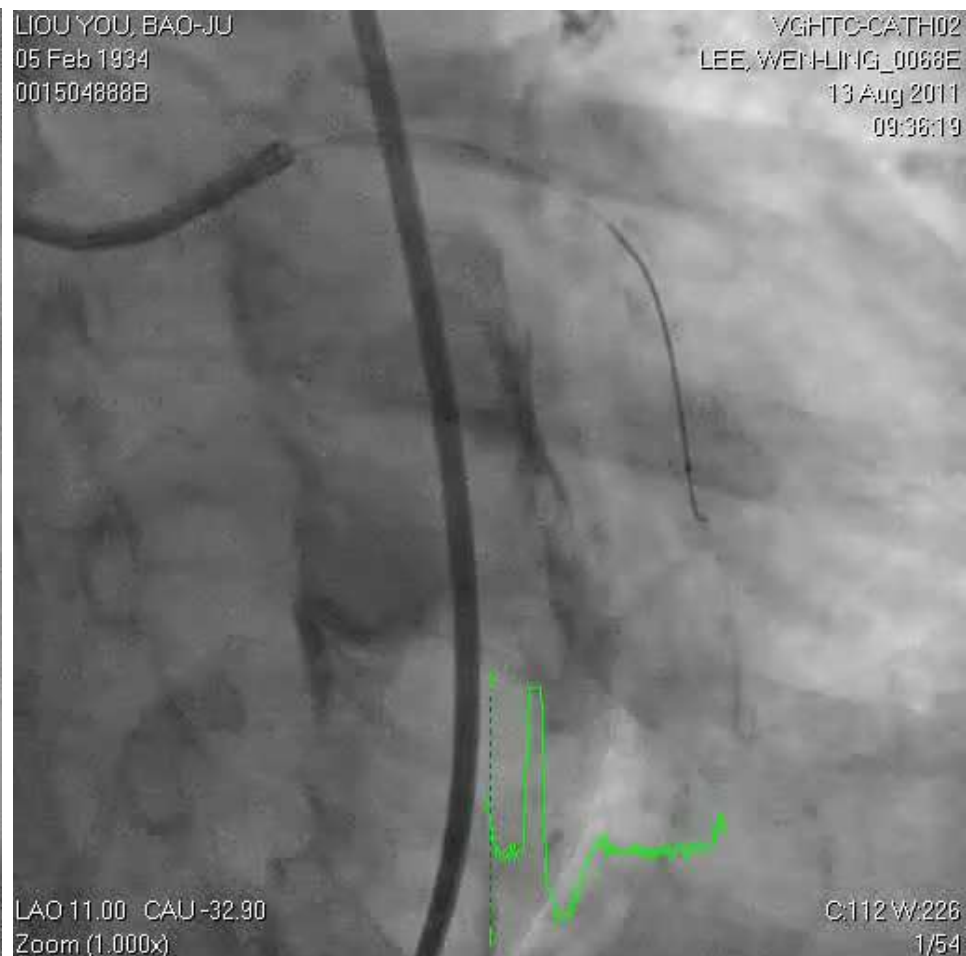
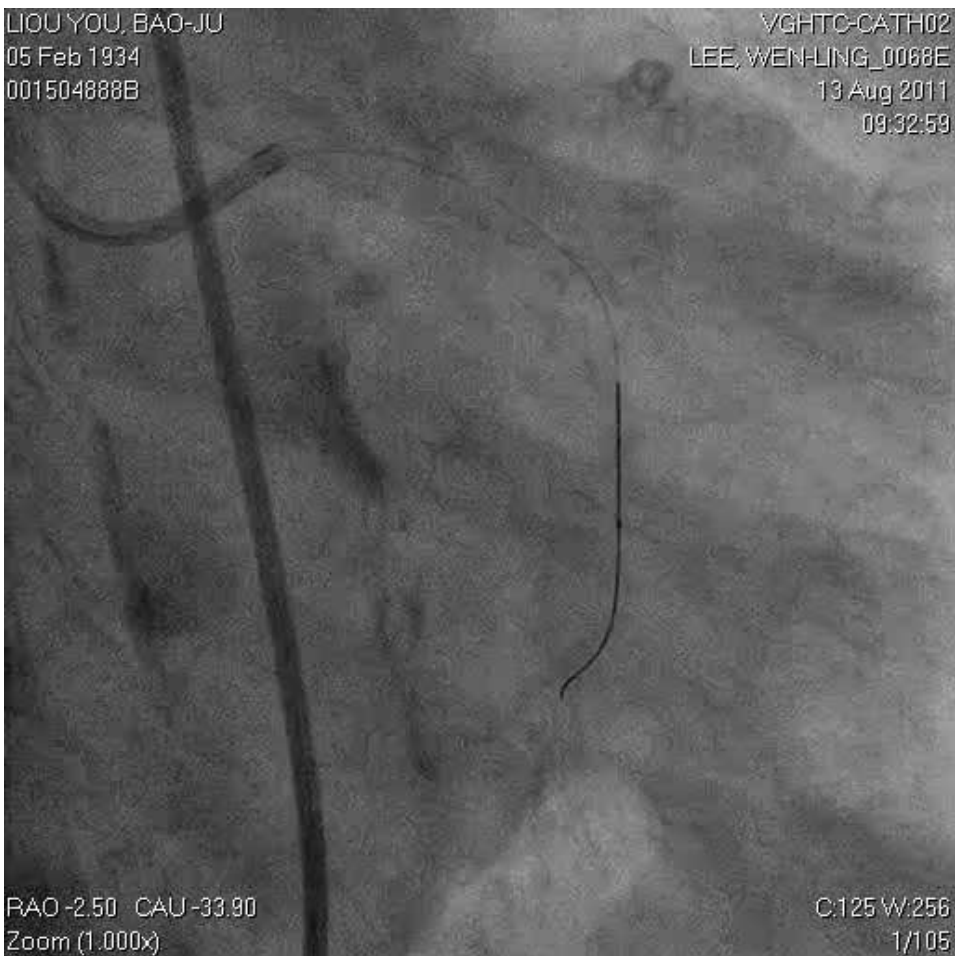
LAO 90.50 CRA 8.50
Zoom (1.000x)

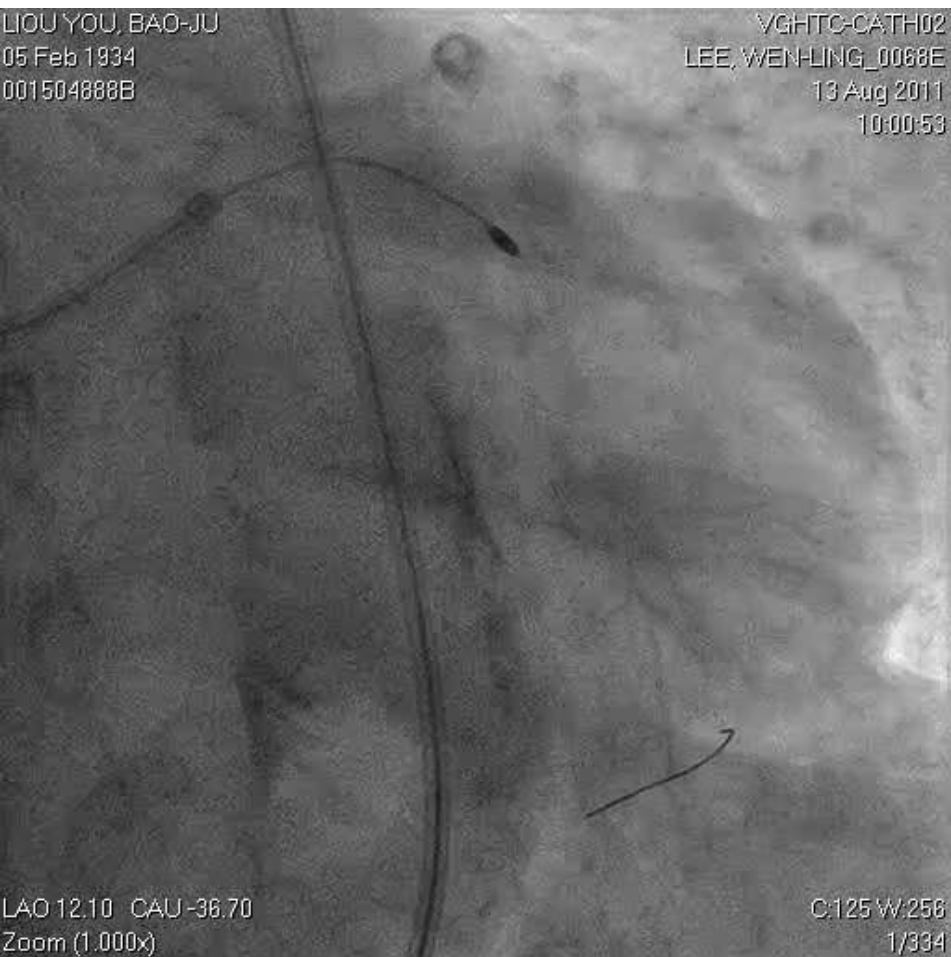


C:112 W:226
1/71

Treatment Planning

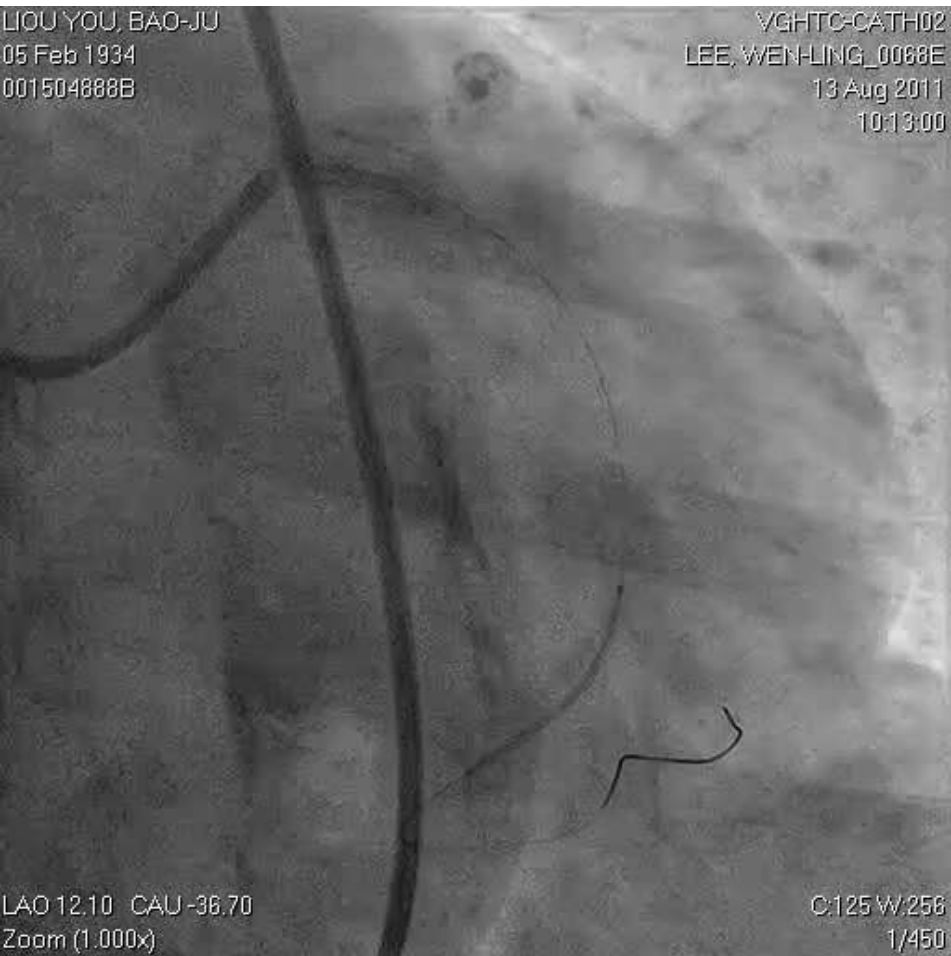
- 7F XB guide
- Rotablation for both MV and SB
- Culotte stenting for LAD





LIU YOU, BAO-JU
05 Feb 1934
001504888B

VGHTC-CATH02
LEE, WEN-LING_0088E
13 Aug 2011
10:13:00

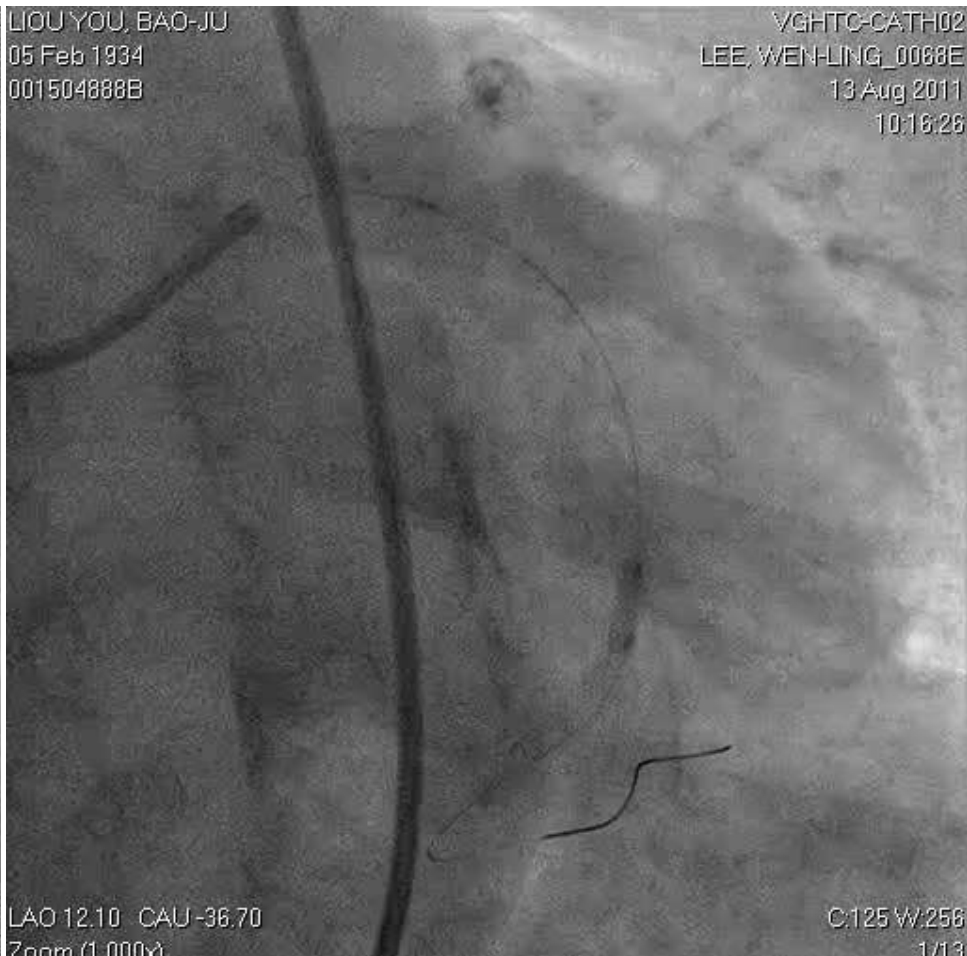


LAO 12.10 CAU -36.70
Zoom (1.000x)

C:125 W:256
1/450

LIU YOU, BAO-JU
05 Feb 1934
001504888B

VGHTC-CATH02
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13 Aug 2011
10:16:26



LAO 12.10 CAU -36.70
Zoom (1.000x)

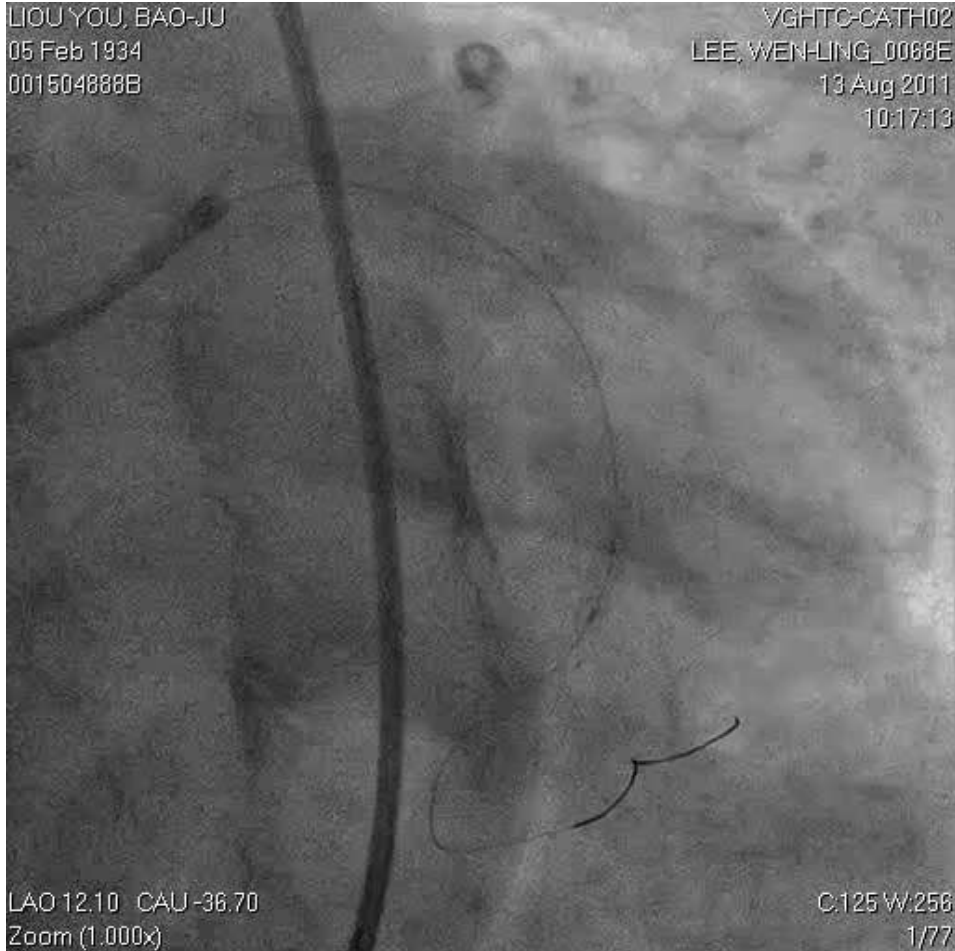
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1/13

LIU YOU, BAO-JU
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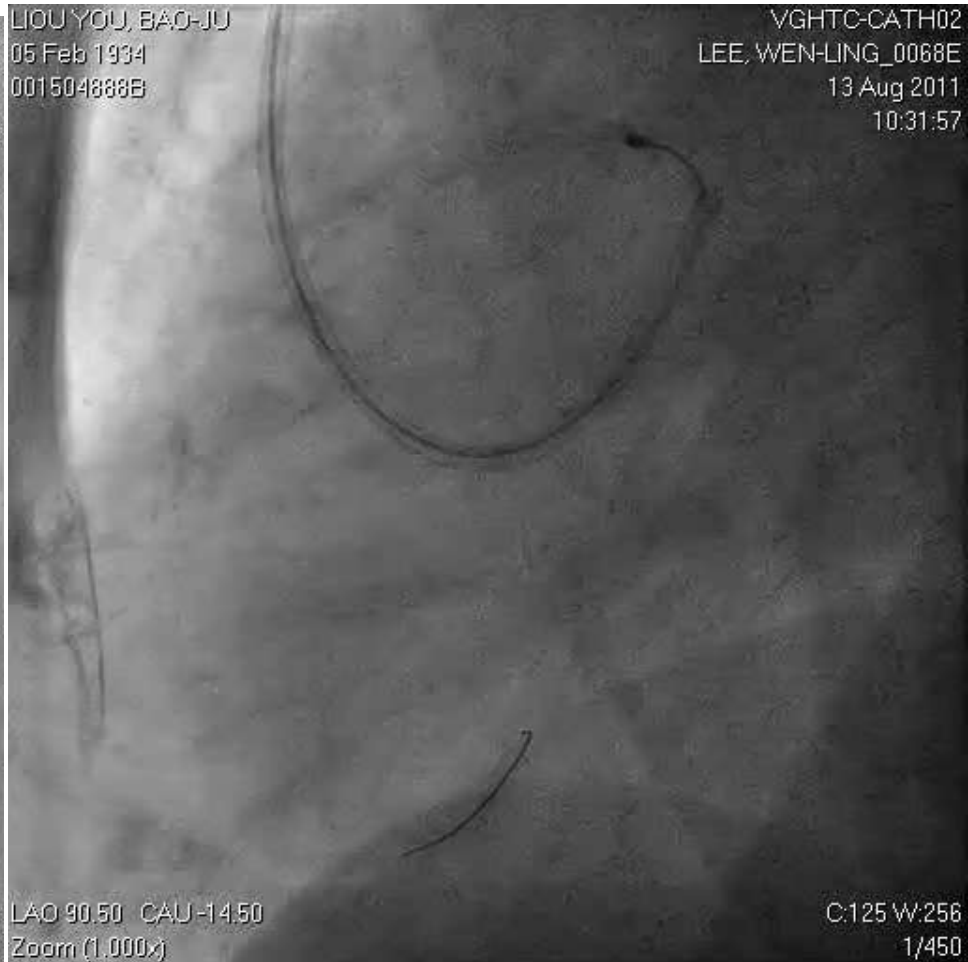
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LEE, WEN-LING_0088E
13 Aug 2011
10:17:13

LAO 12.10 CAU -38.70
Zoom (1.000x)

C:125 W:256
1/77



1.5mm burr for MV



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05 Feb 1934
001504888B

VGHTC-CATH02
LEE, WEN-LING_0088E
13 Aug 2011
10:32:40

LAO 27.40 CRA 30.30
Zoom (1.000x)

C:125 W:256
1/282

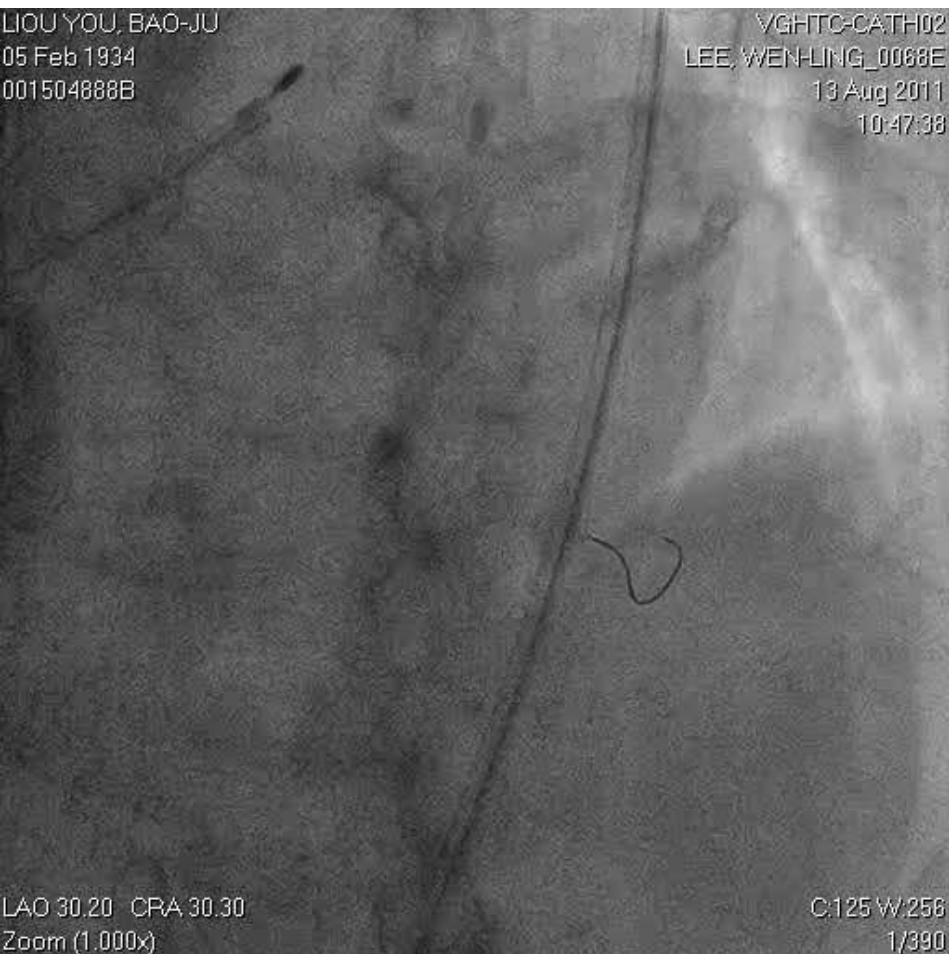
LIU YOU, BAO-JU
05 Feb 1934
001504888B

VGHTC-CATH02
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13 Aug 2011
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LAO 30.20 CRA 30.30
Zoom (1.000x)

C:125 W:256
1/124

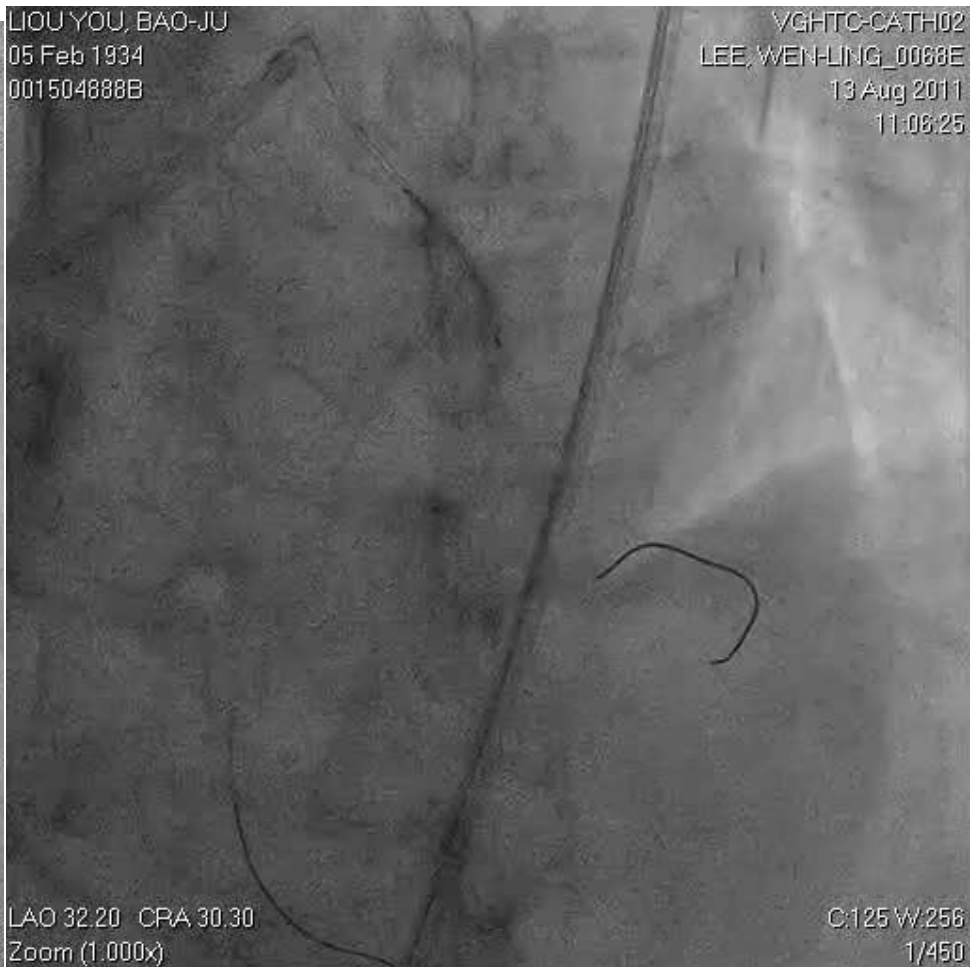
1.25mm burr



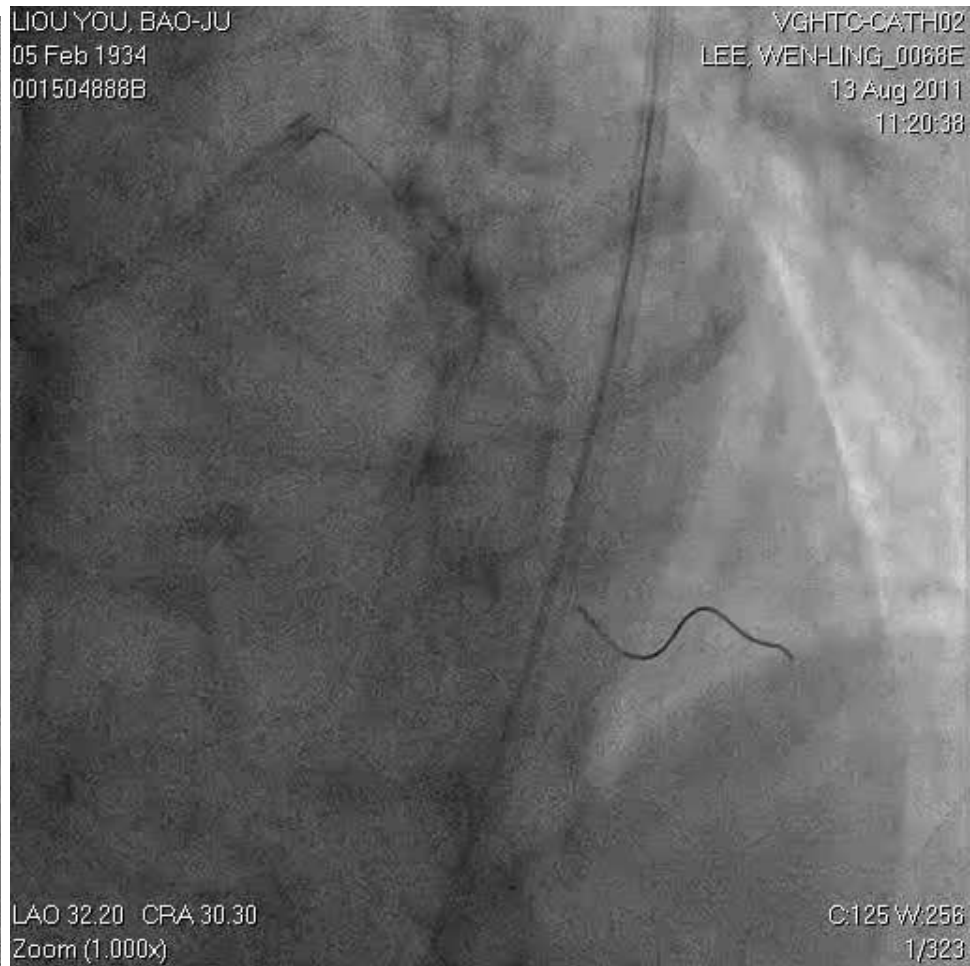
SB → MV POBA



MV POBA → SB stenting



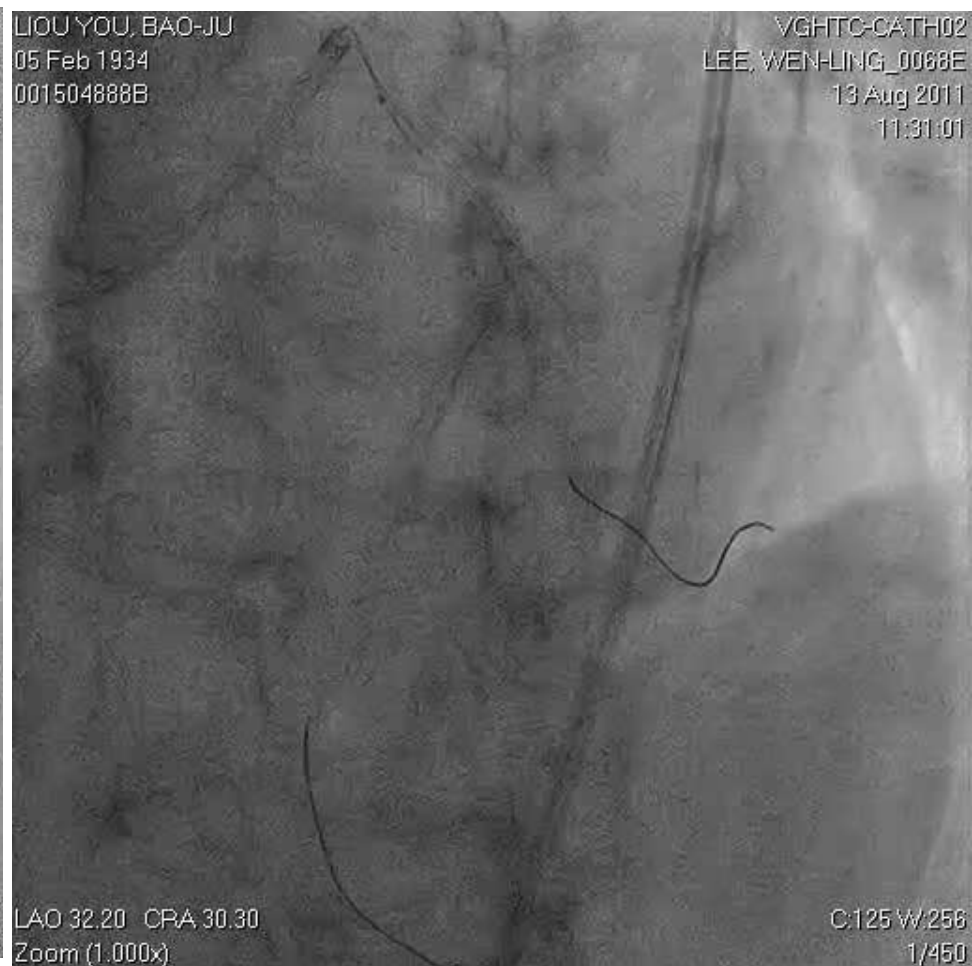
MV rewiring aided by Crusade → balloon crossing easily → MV stent



MV stenting



Rewiring the SB Aided by Crusade

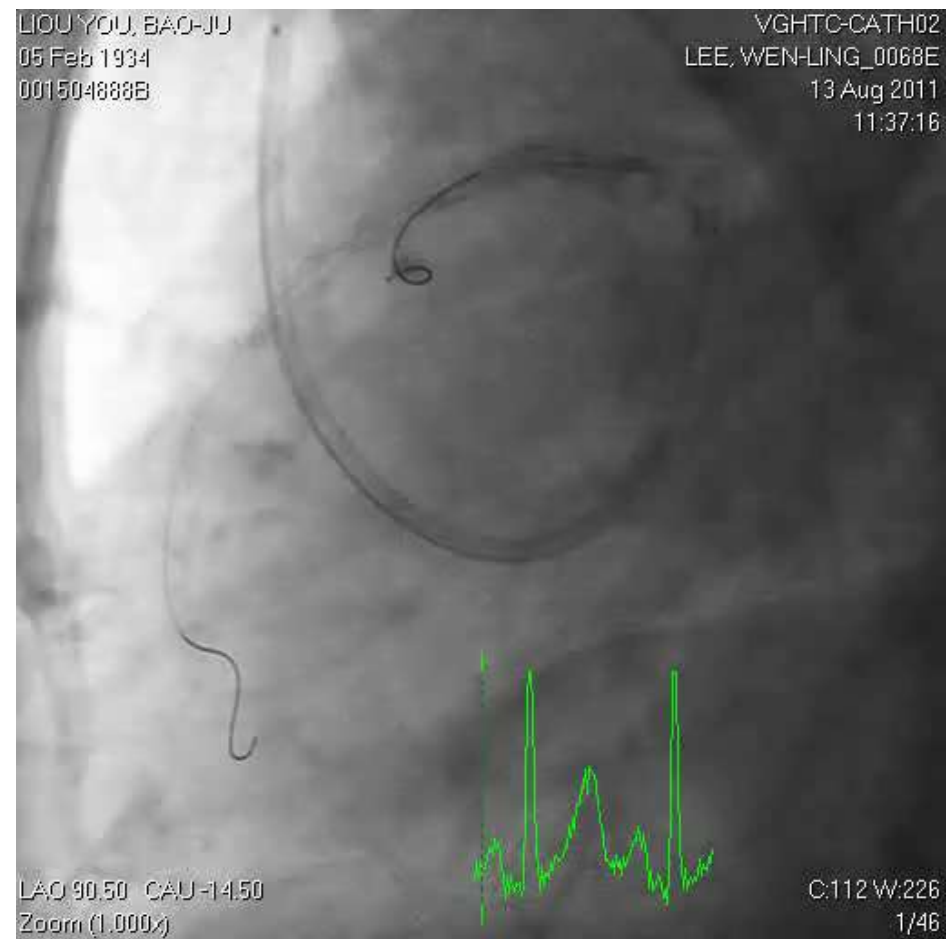
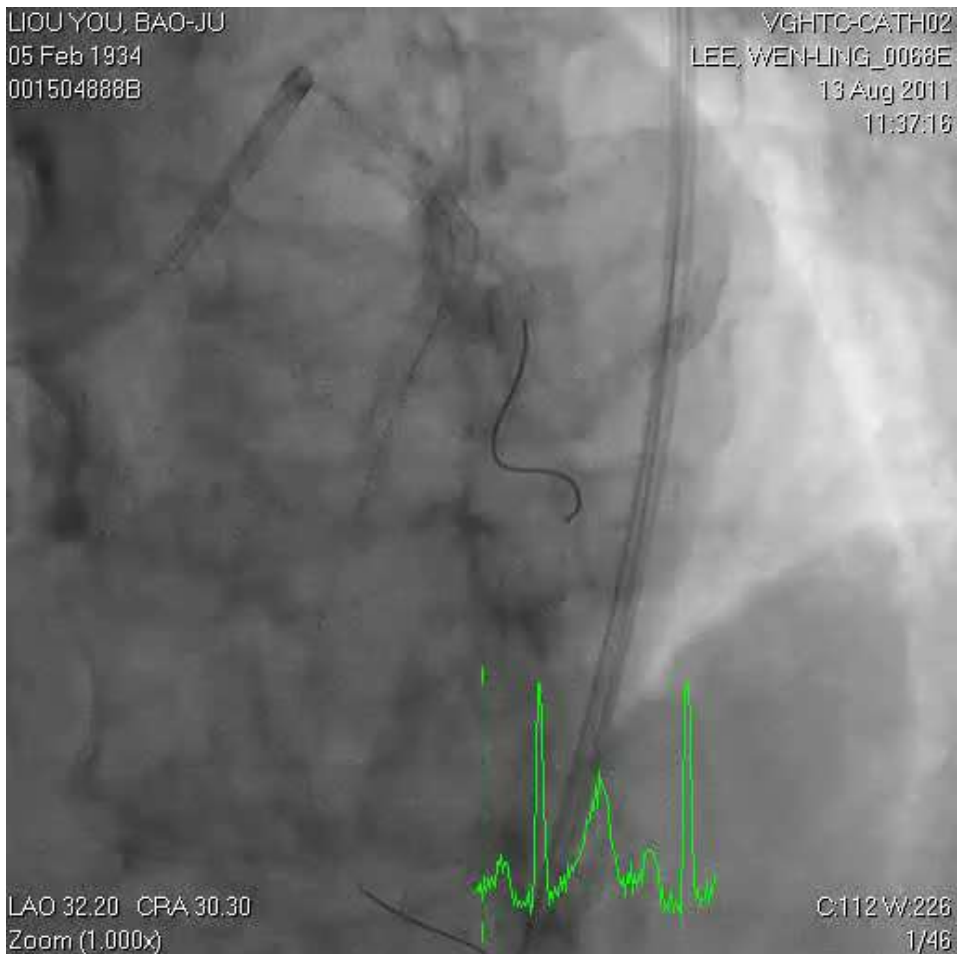


LIU YOU, BAO-JU
05 Feb 1934
001504888B

VGHTC-CATH02
LEE, WEN-LING_0088E
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LAO 32.20 CRA 30.30
Zoom (1.000x)

C:125 W:258
1/14

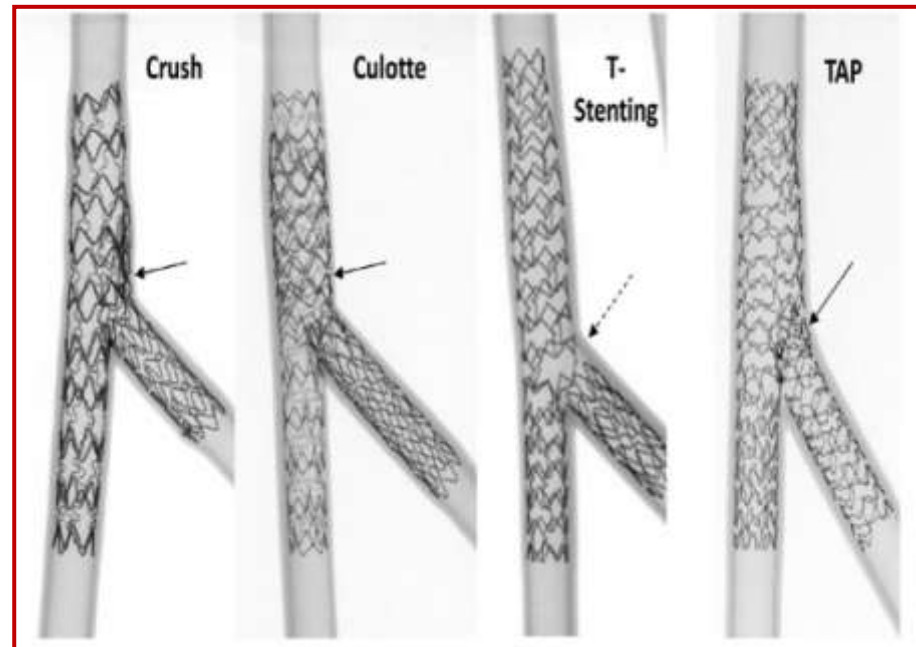
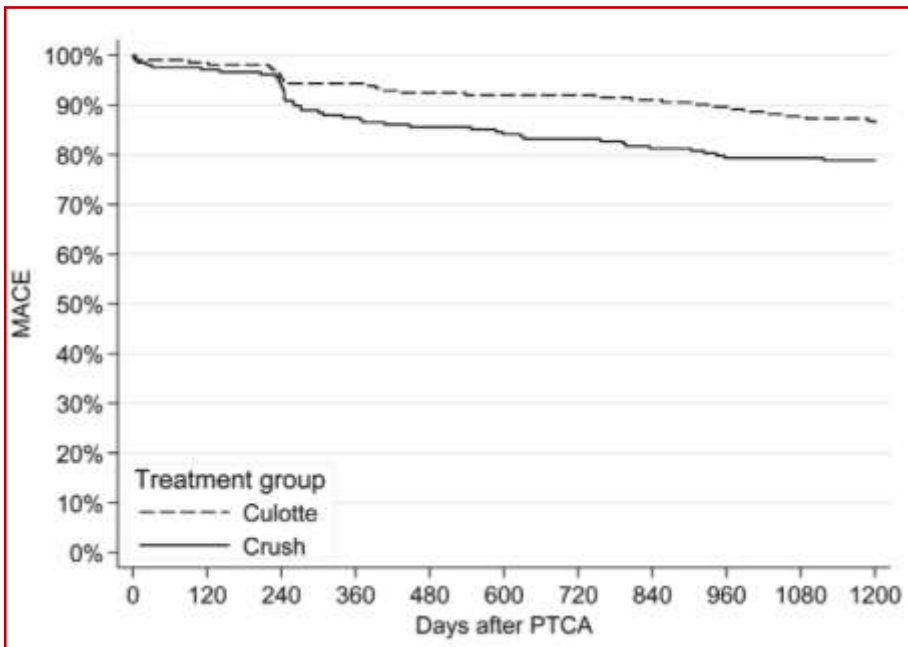


Rotablation of Both MV and SB Is Useful for
Calcified or Atheromatous True Bifurcation
Lesion Treatment Even If Two-Stent Technique
Is Not Intended.

Case 2

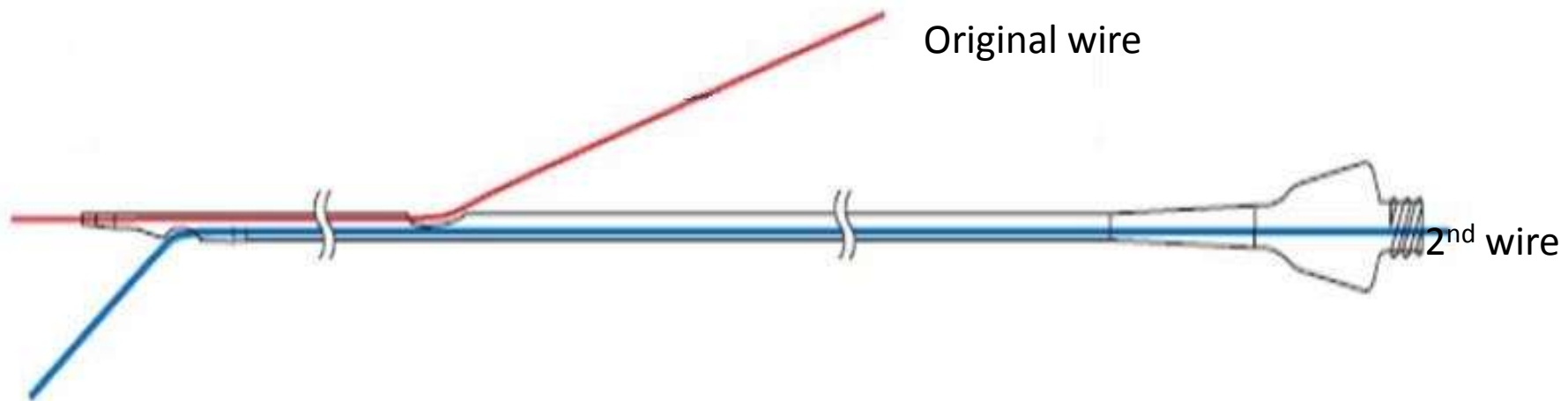
- Double lumen “Crusade” catheter
- Double kissing technique in facilitating culotte stenting

Nordic At 3 Years



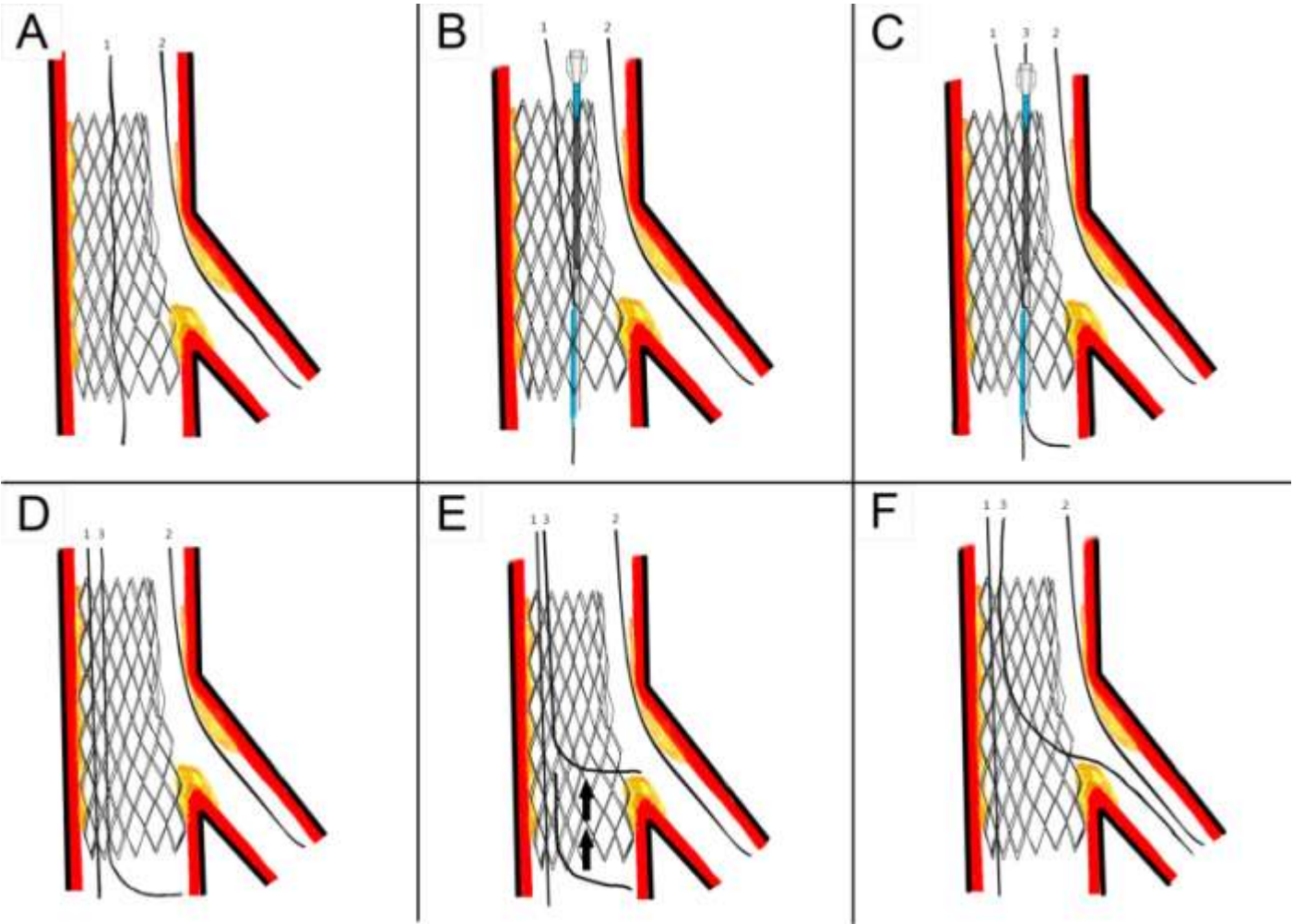
Foin et al. Circ J 2013; 77: 73-80

Re-wiring by DOUBLE LUMEN micro-catheter



Courtesy of Dr. PM Ku

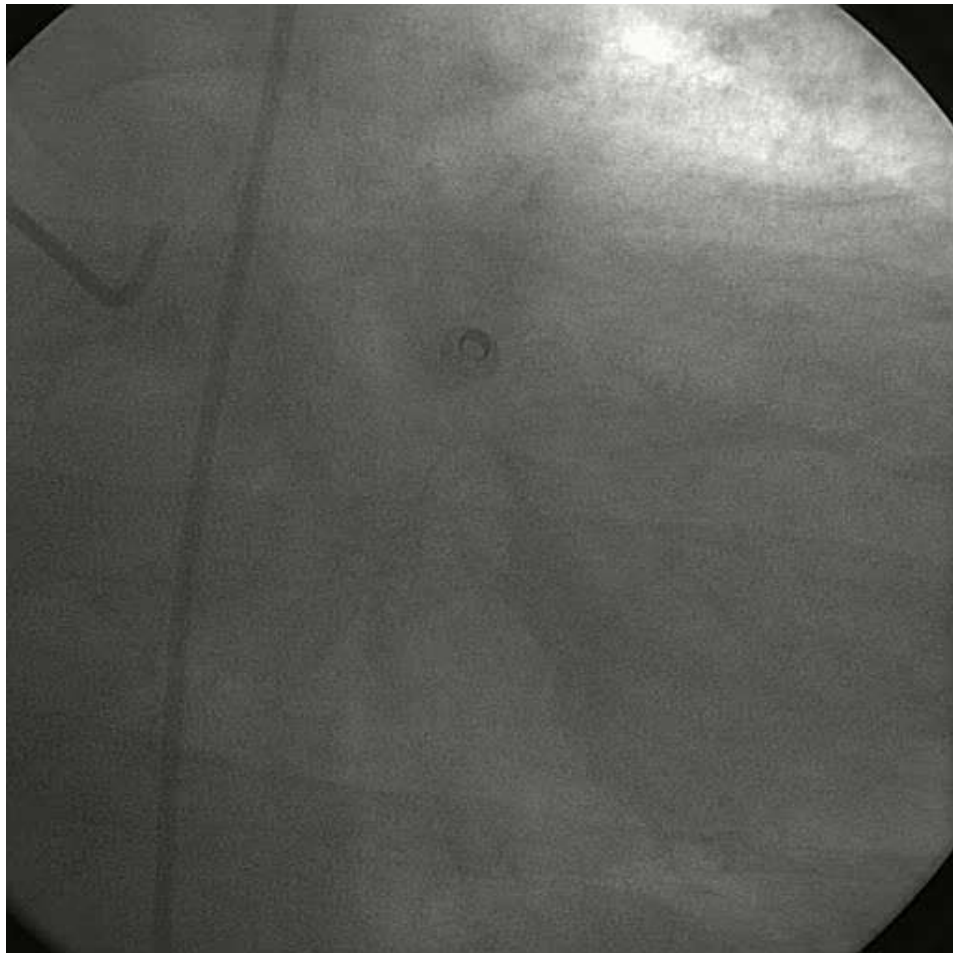
Re-wiring by DOUBLE LUMEN micro-catheter (Crusade)

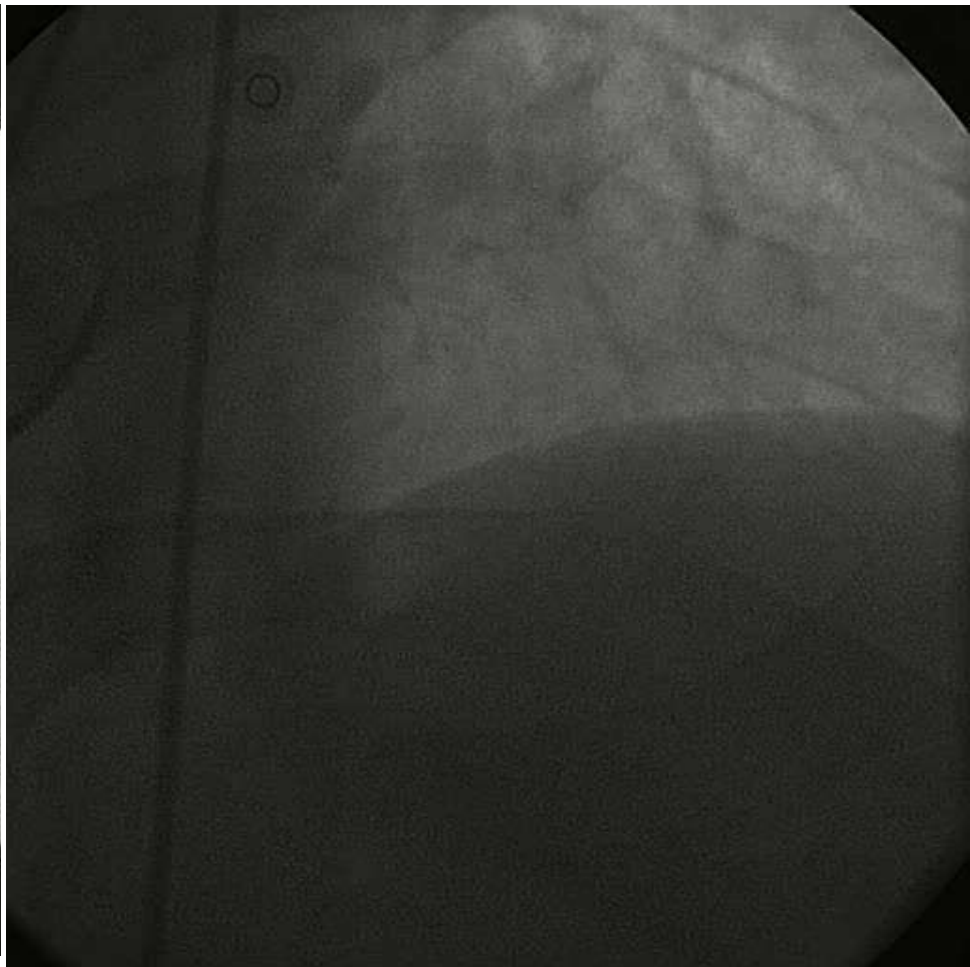


Case Presentation

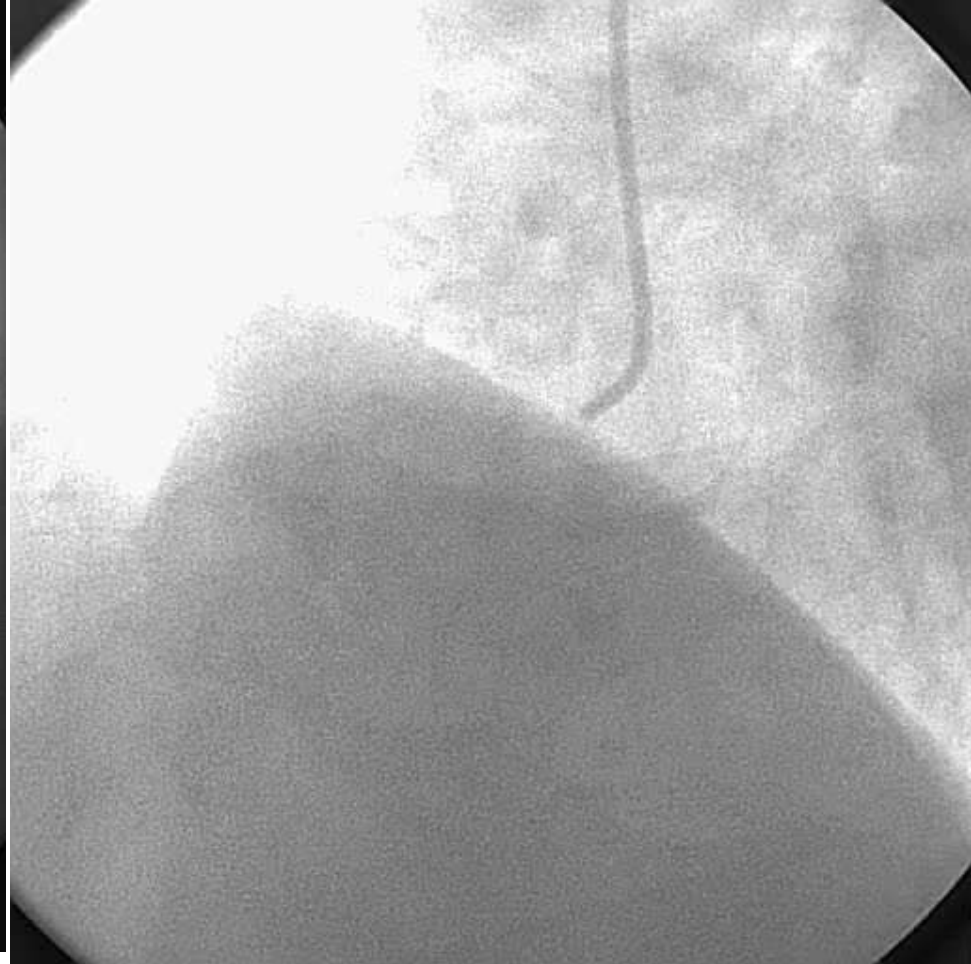
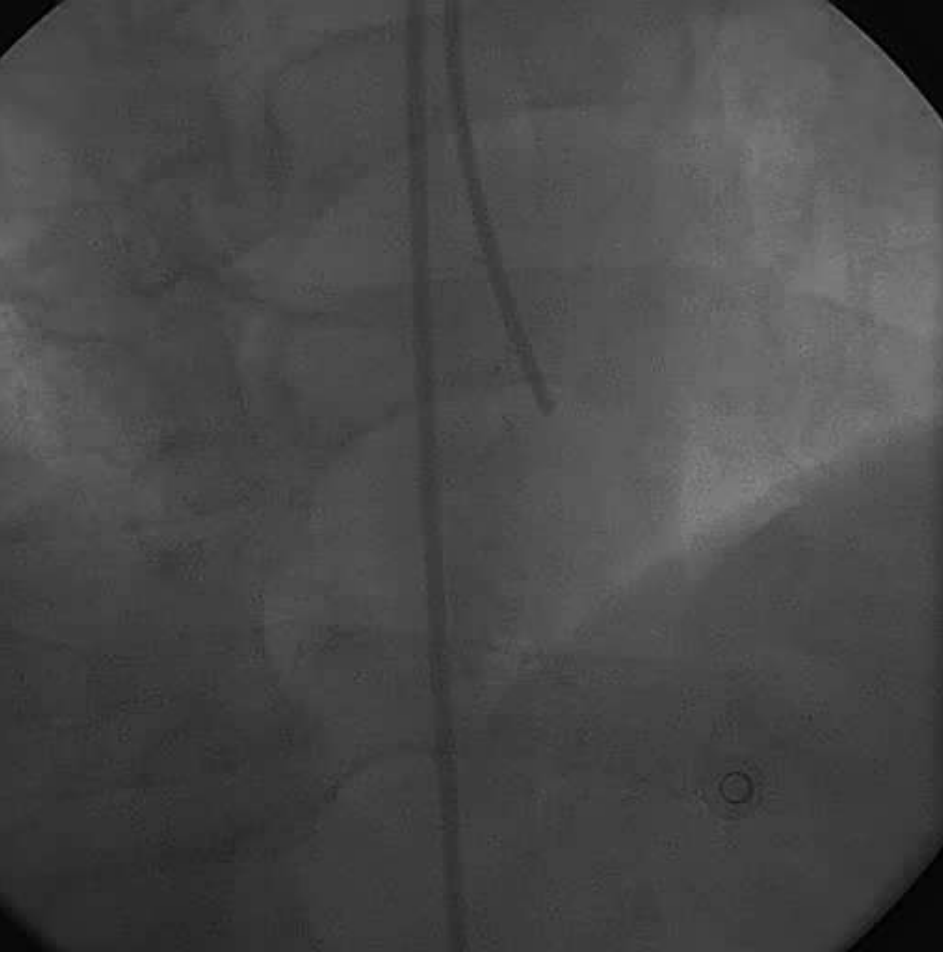
- Zheng Chunzhong, 2051879A
- 20130607

Diagnostic CAG





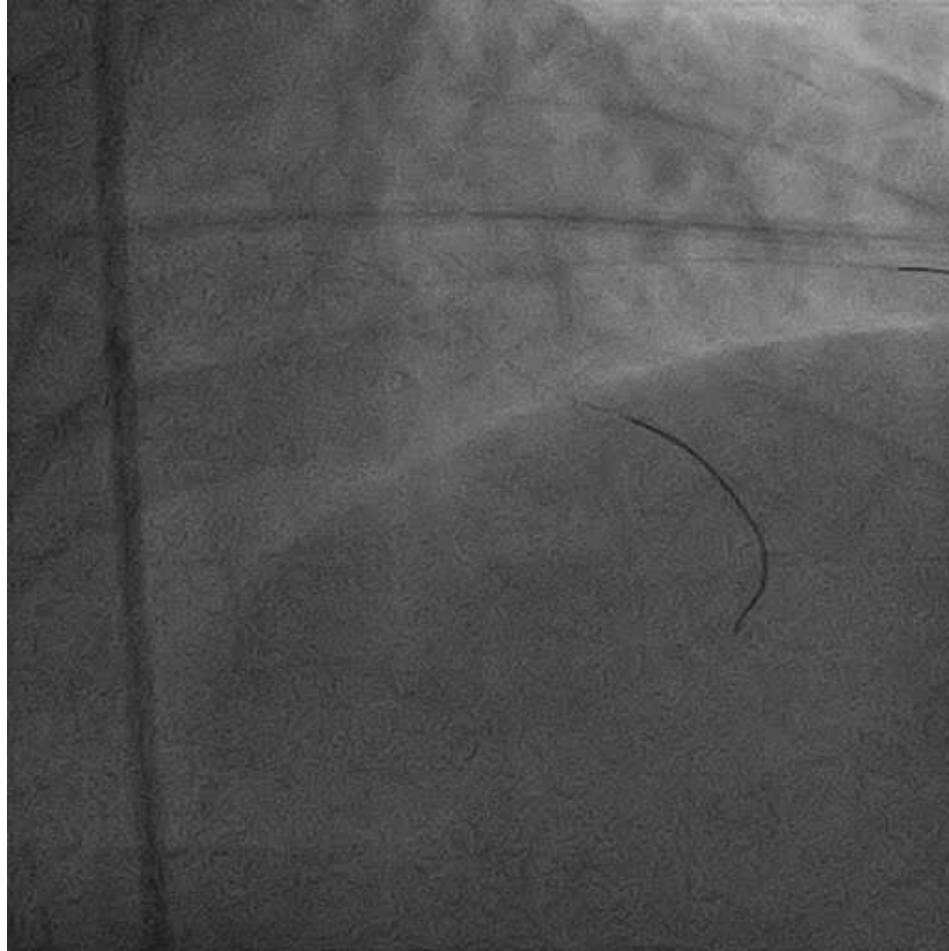
RCA: Long CTO



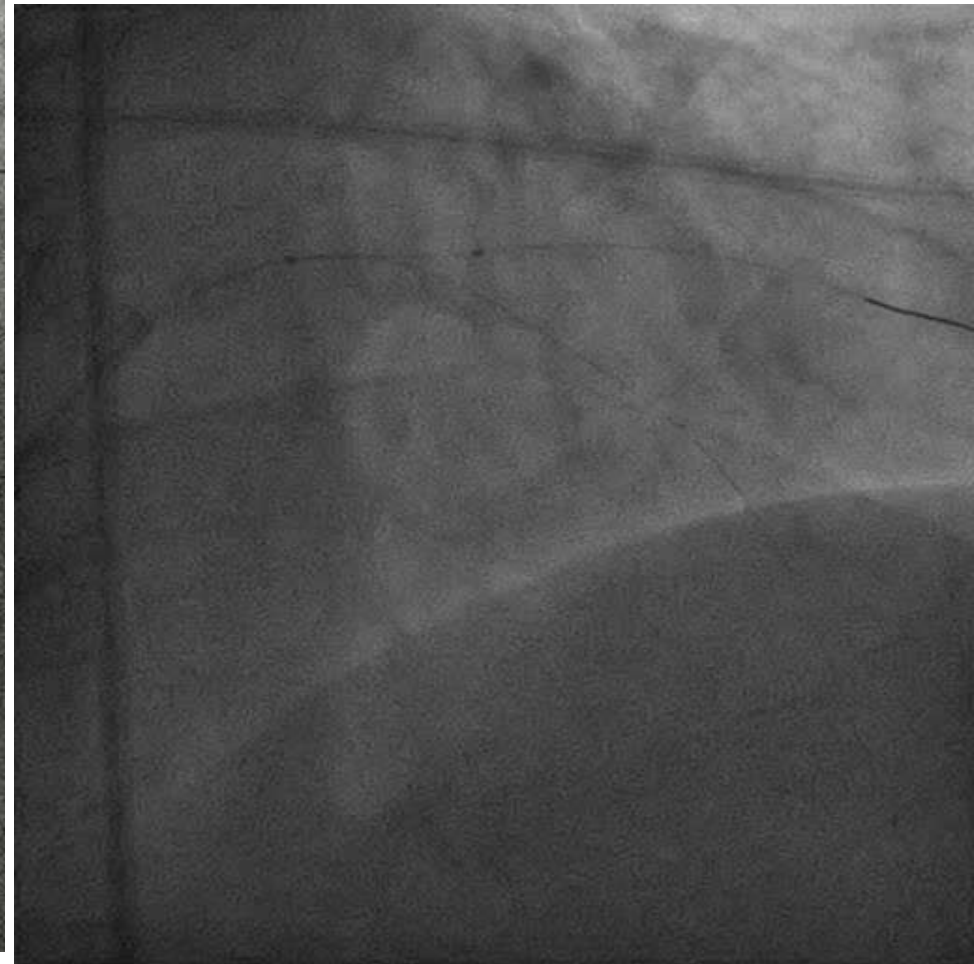
Premise

- No mistake in LCA PCI
- Need to preserve both branches of LAD bifurcation lesion
 - 7F XB guide
 - double-kissing culotte stenting

Wire both branches



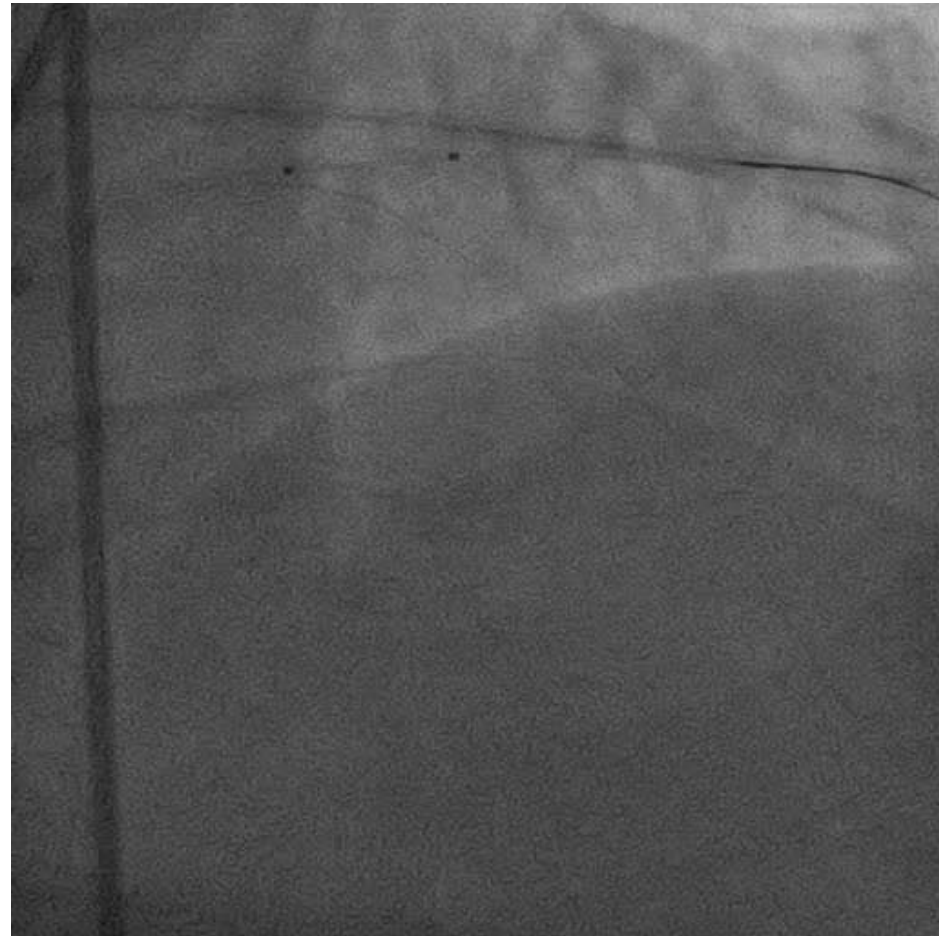
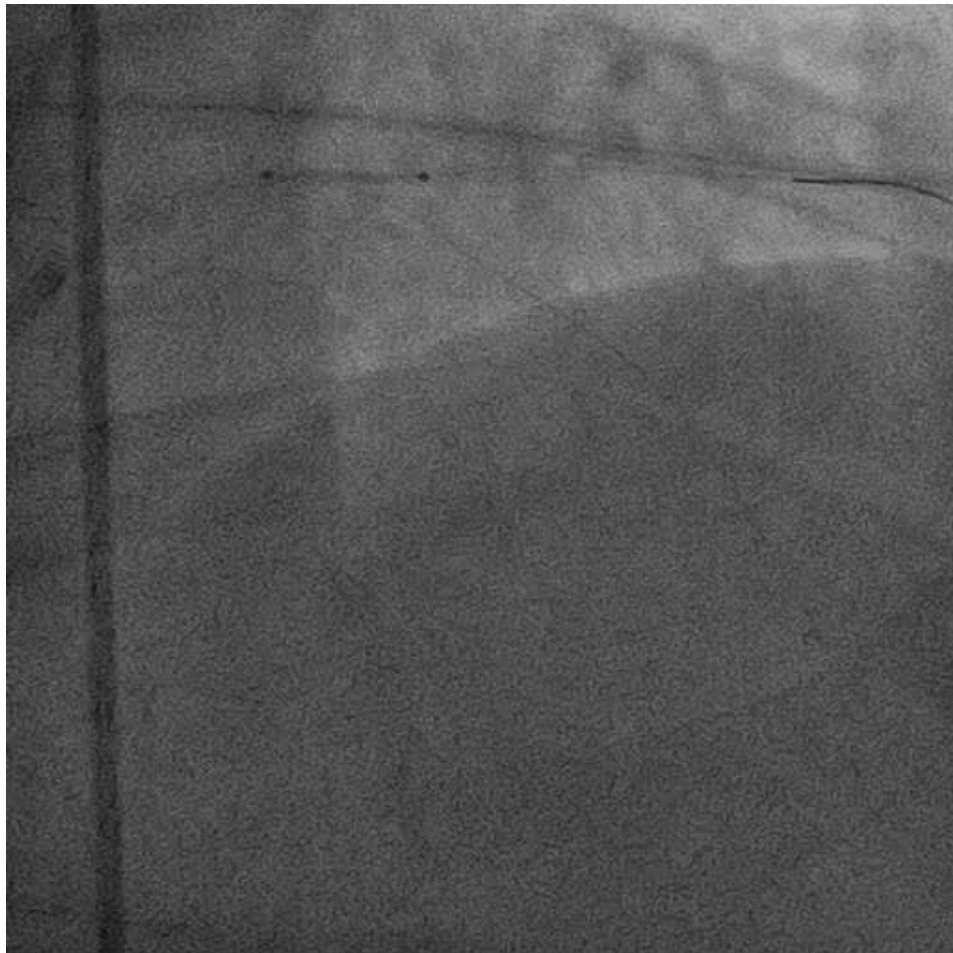
SB POBA First and Post



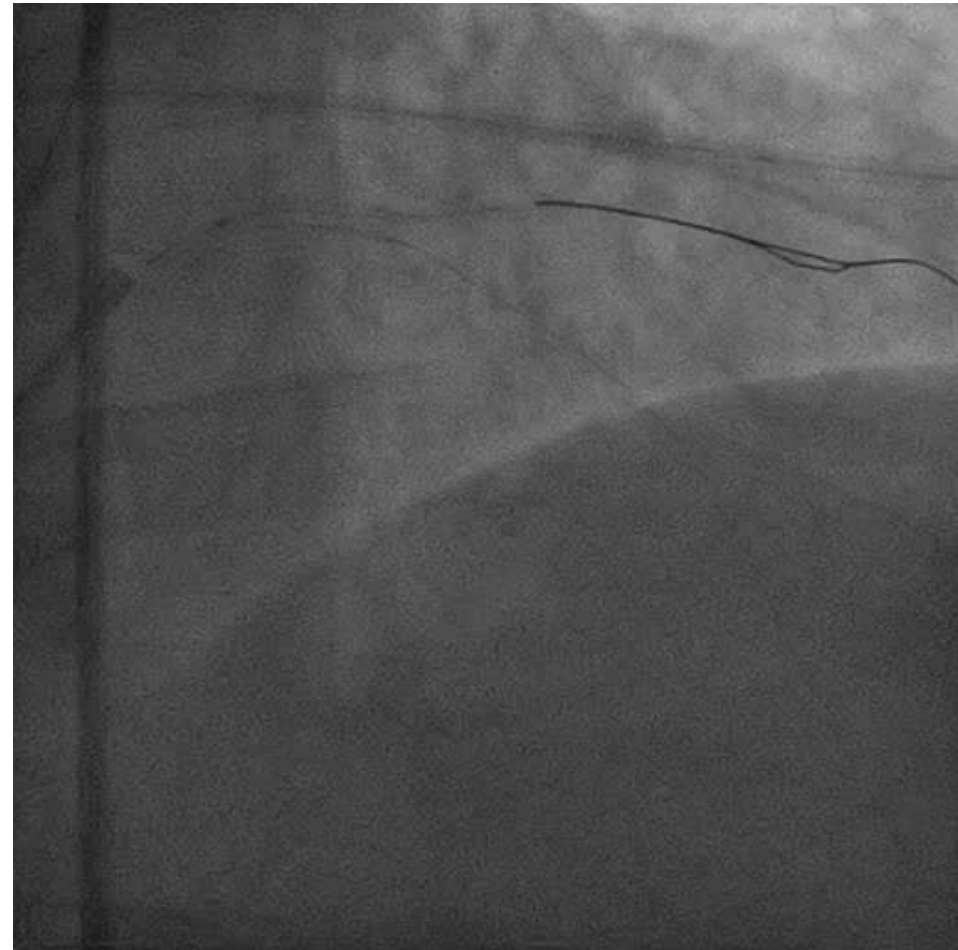
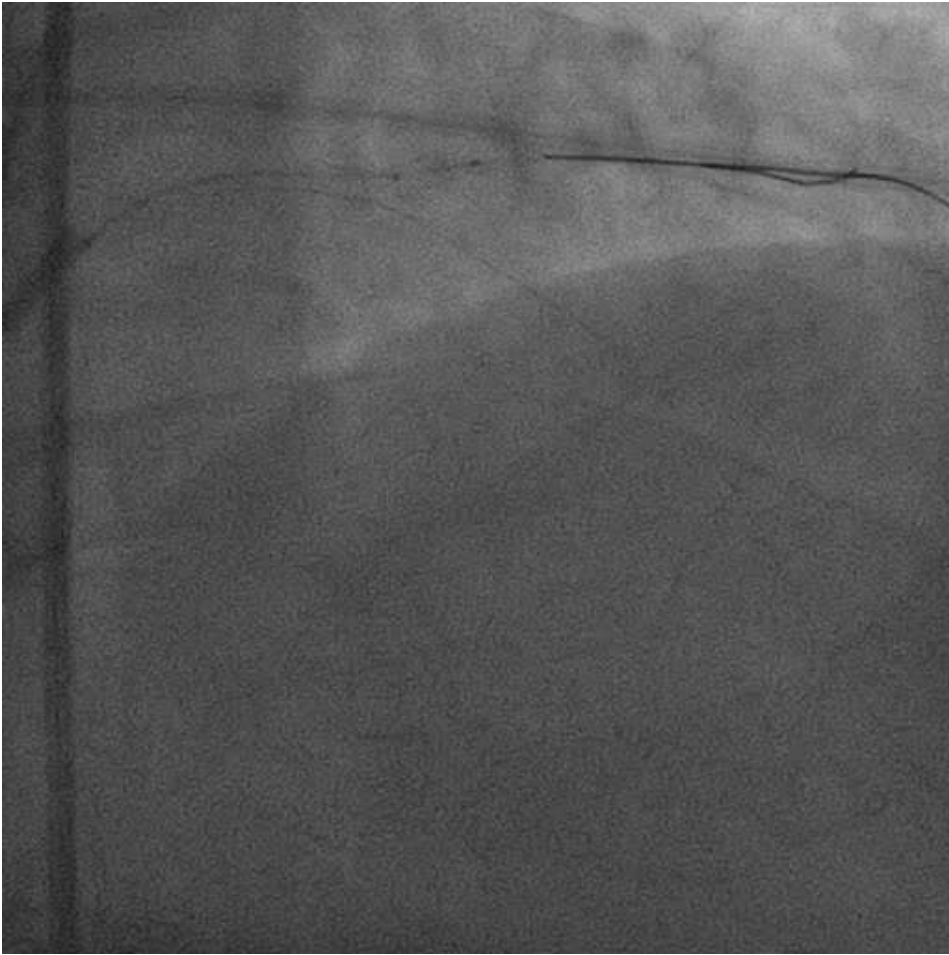
POBA MV



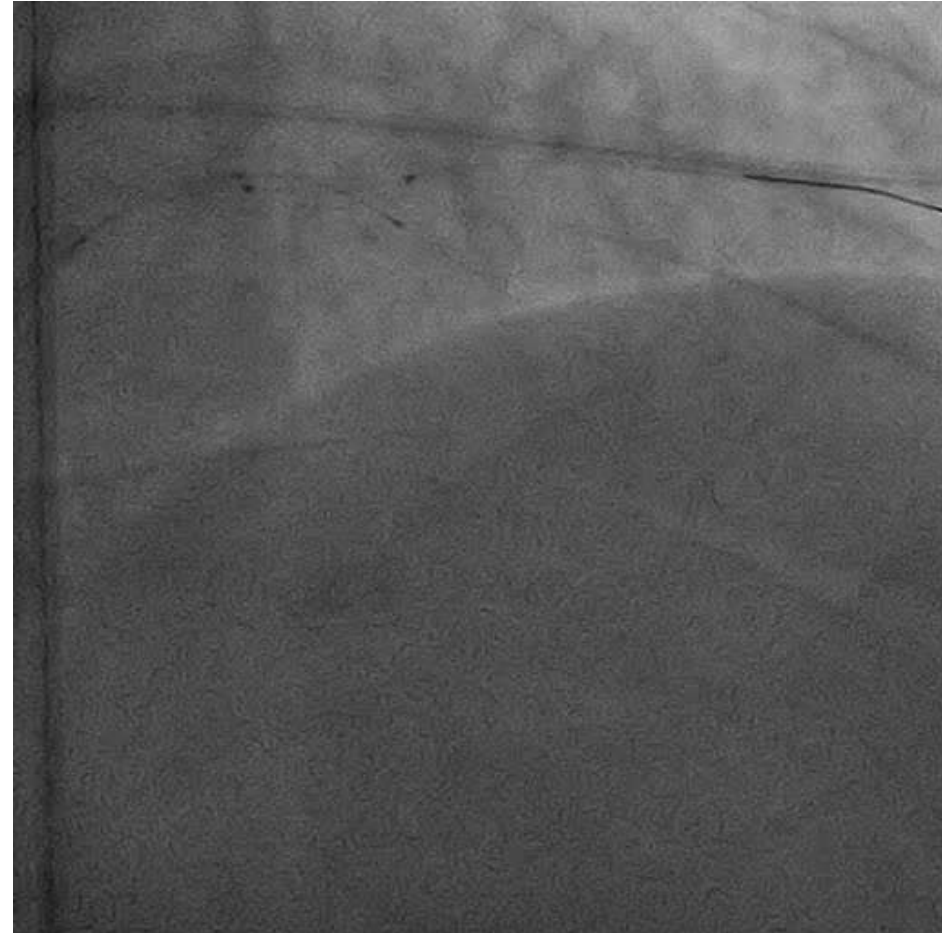
First arm of culotte stenting low pressure at 8 atm



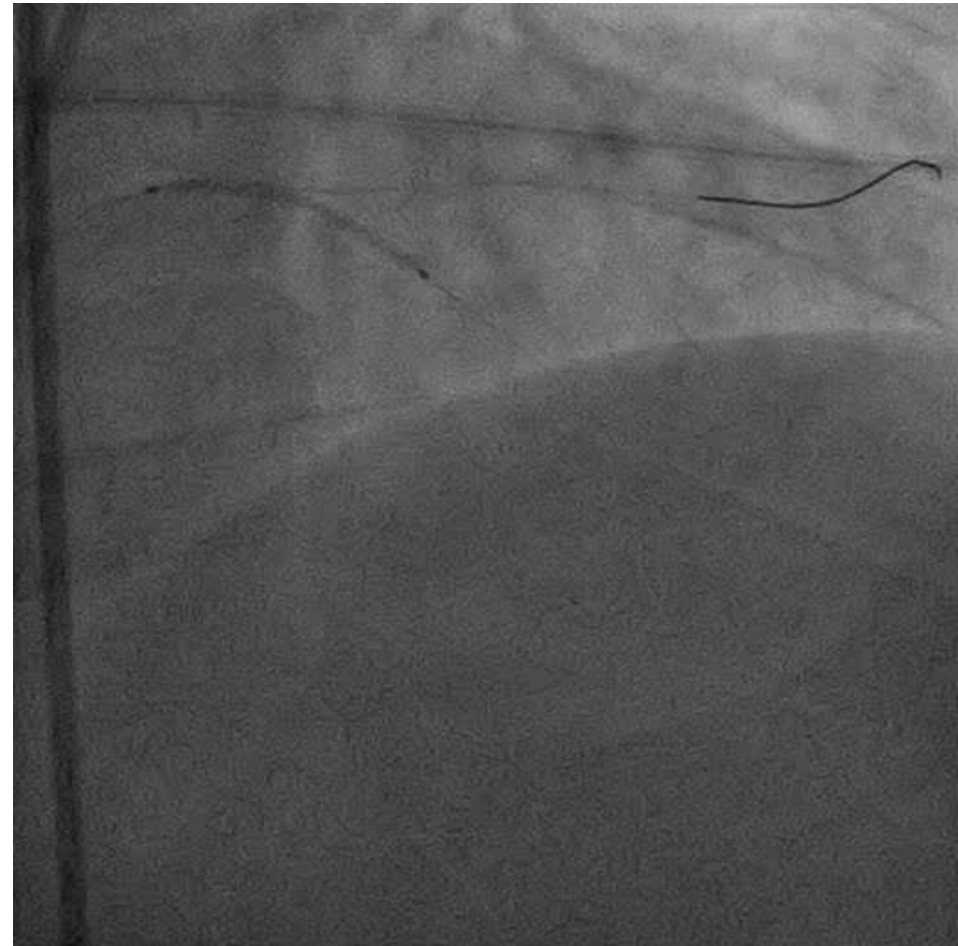
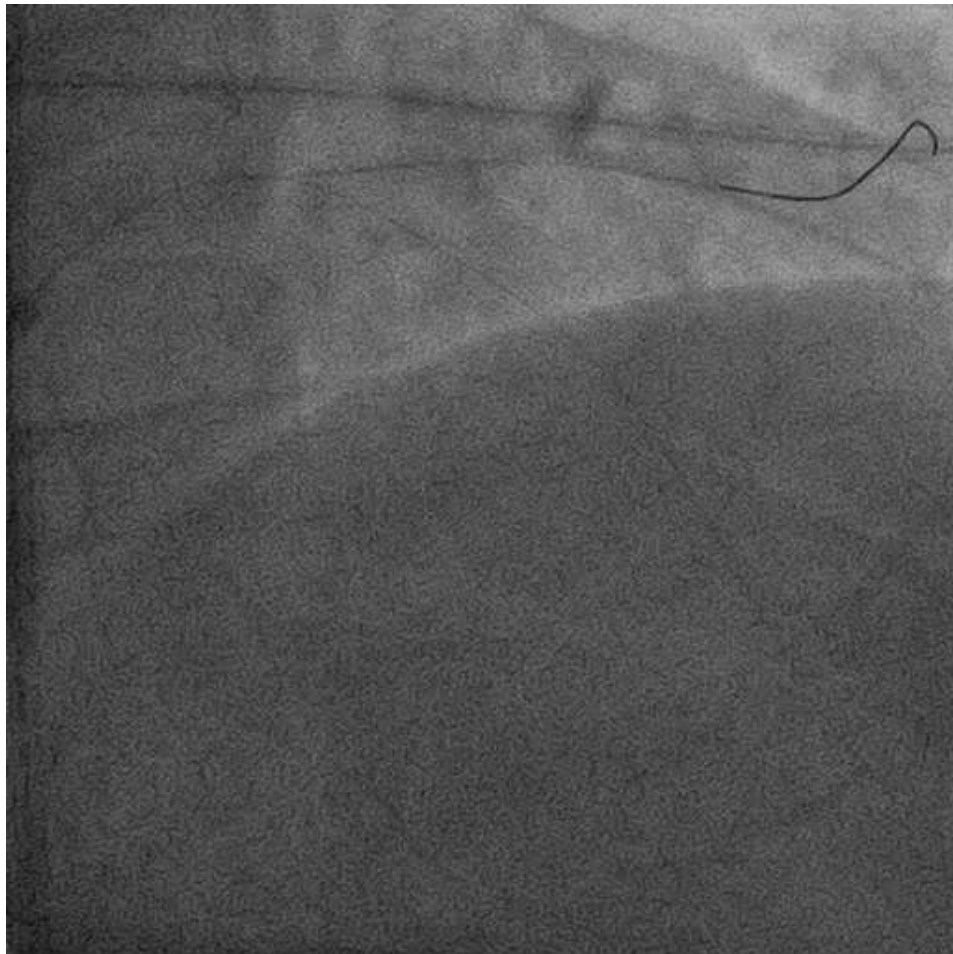
Crusade to bring 3rd wire in



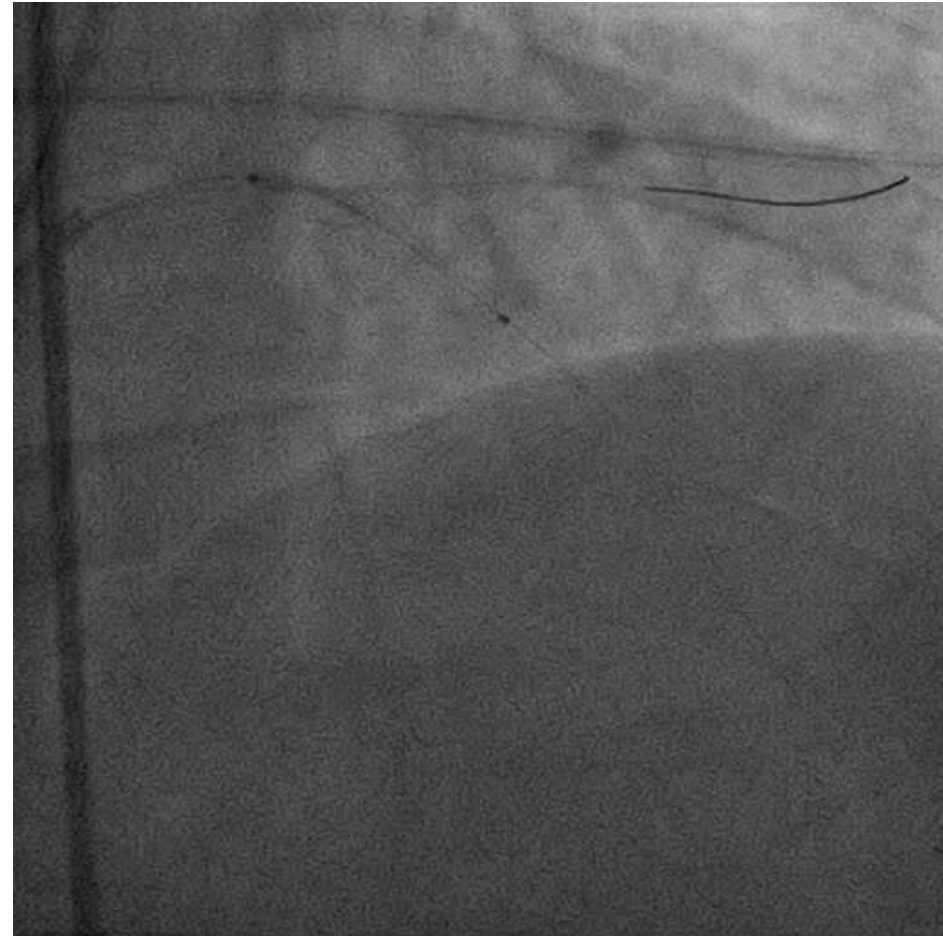
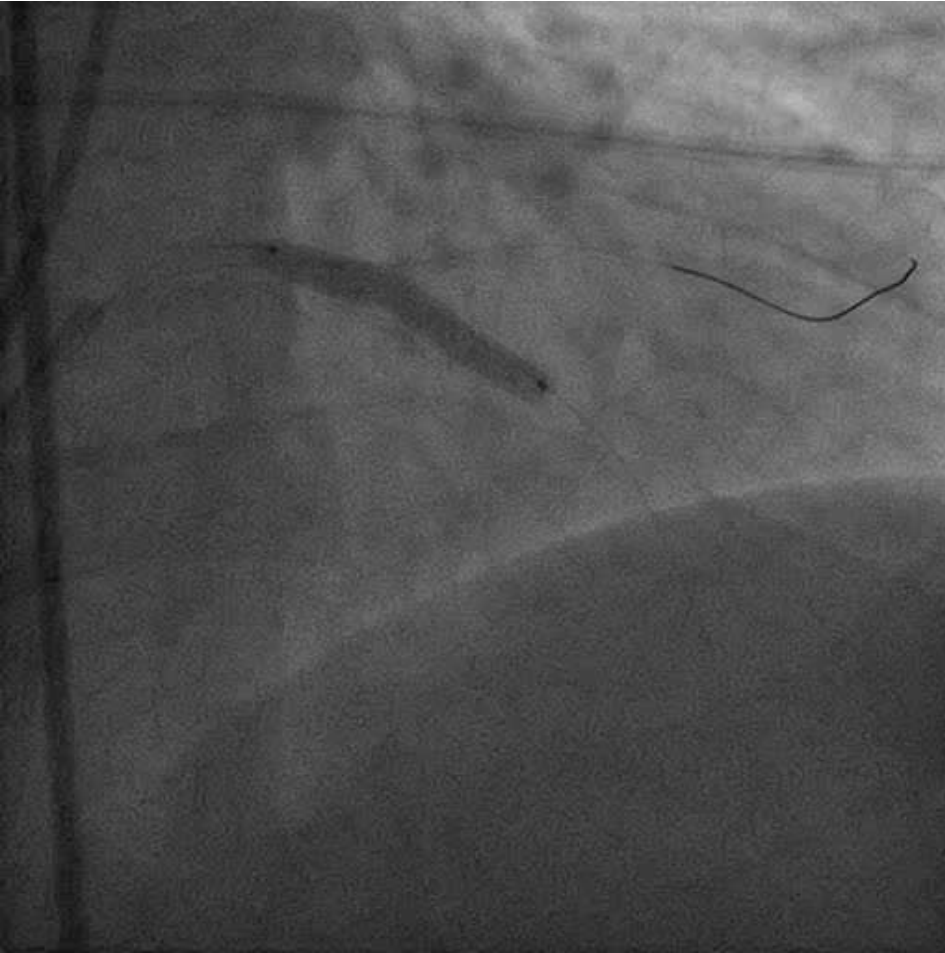
How easily the non-virgin 2x20mm BC
cross strut → First KBT



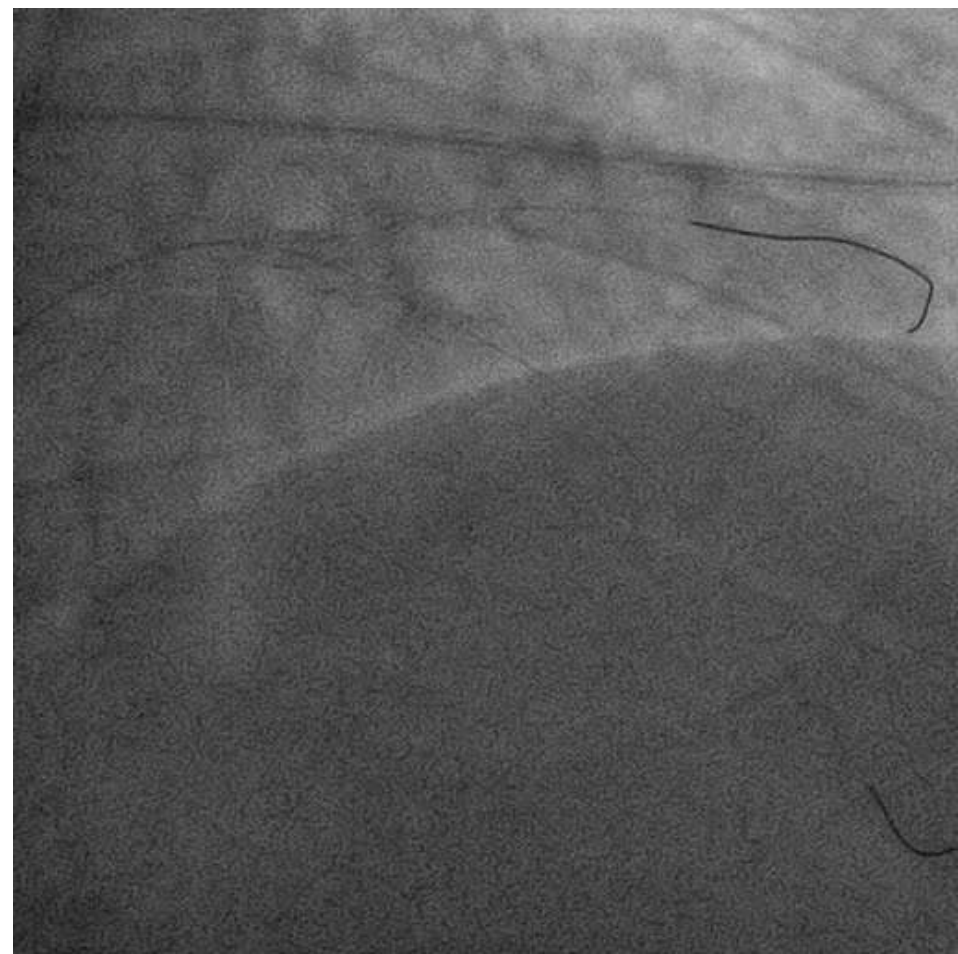
How easily the 2nd stent cross the strut



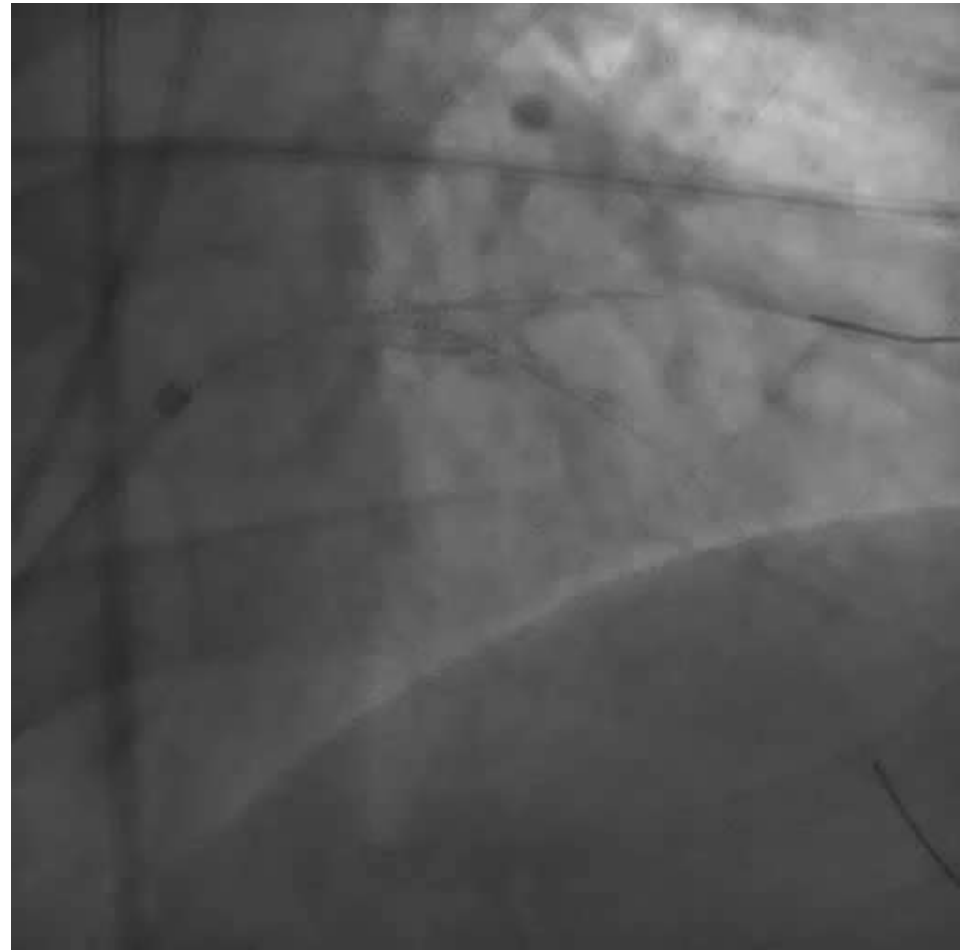
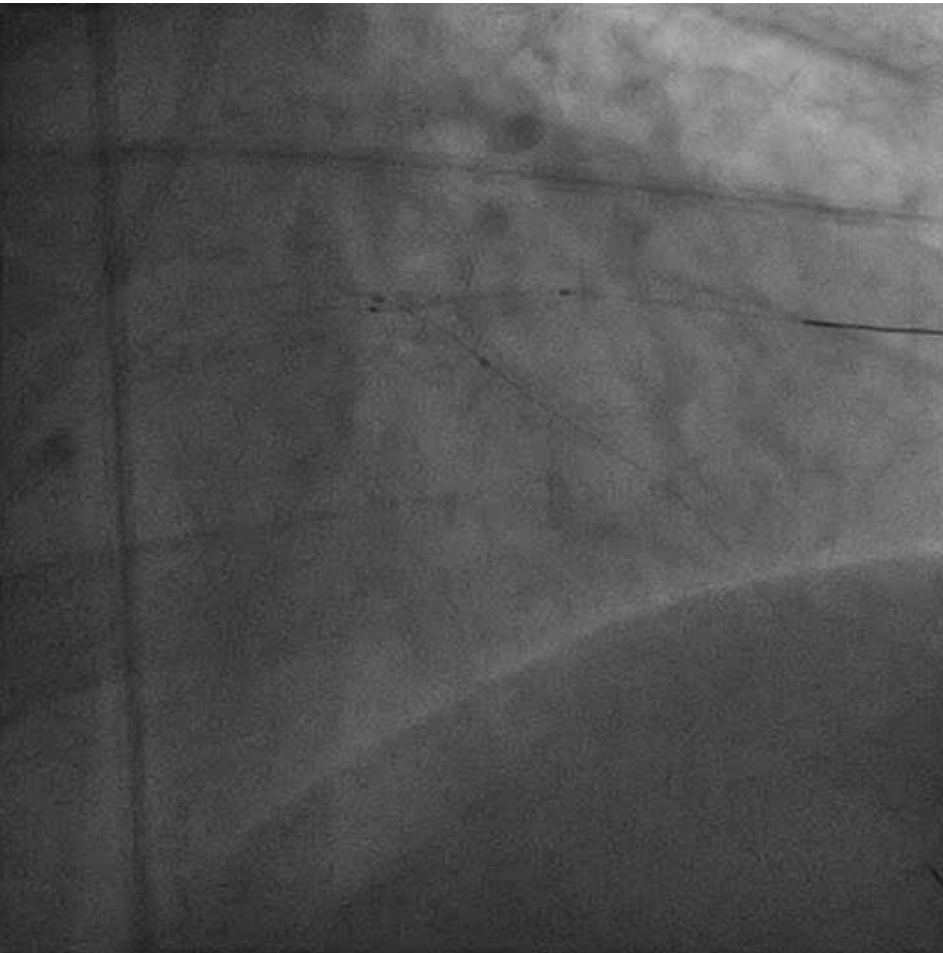
2nd Arm of culotte stenting



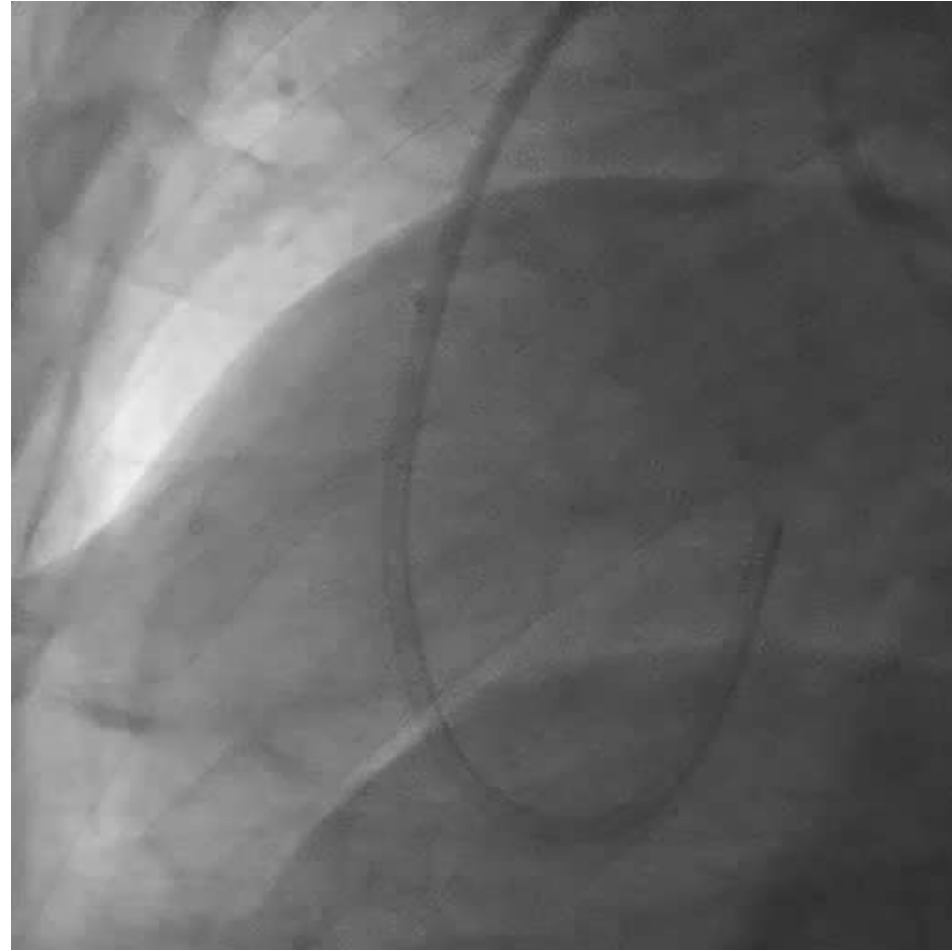
Remove the 1st wire and use Crusade to bring this wire in → even 2x20mm re-wrapped BC could go easily



2nd KBT; the weak arm up first



Final



Perclosure



Procedure details

- Total procedure time: 1hr 10 min
- Total fluoro time: 18.4 min
- Total contrast medium:

Take Home Messages

- Two-stent technique is not really rarely needed for true bifurcation lesions in real world practice
- Proper lesion preparation and wise tool/technique use can facilitate two stent implementation and optimize angio result in such cases

Thank You for Your Attention!