A Case of Chronic Total Occlusion Revascularization with Using "Slipstream Technique"

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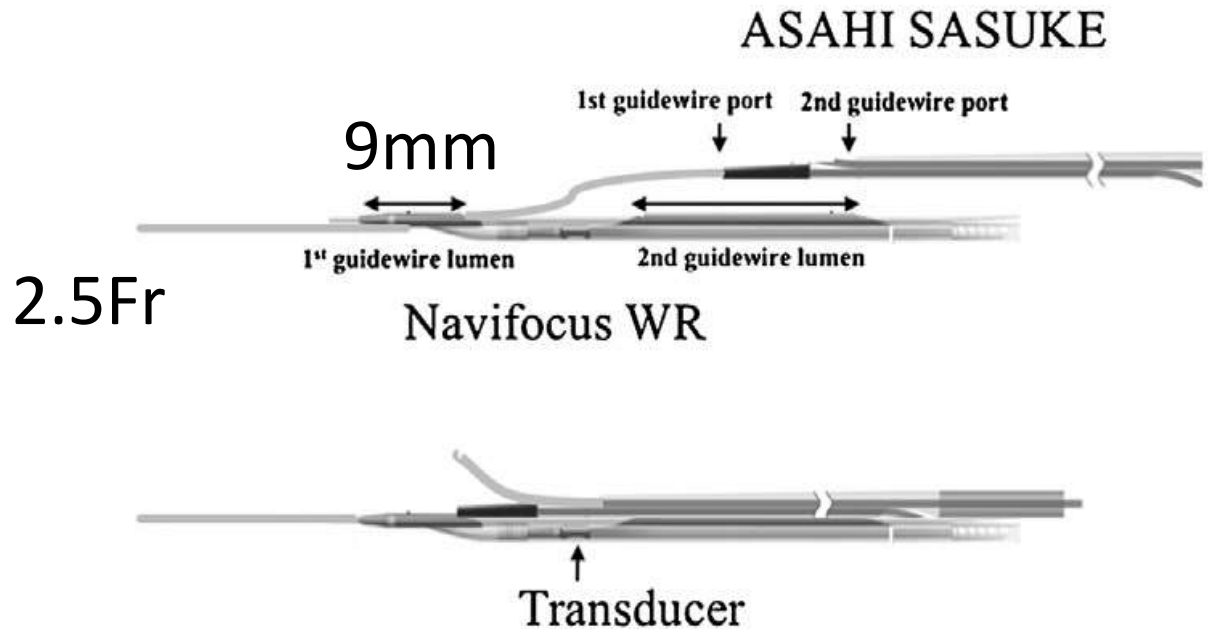
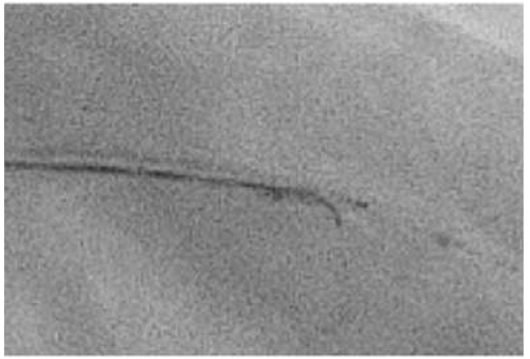
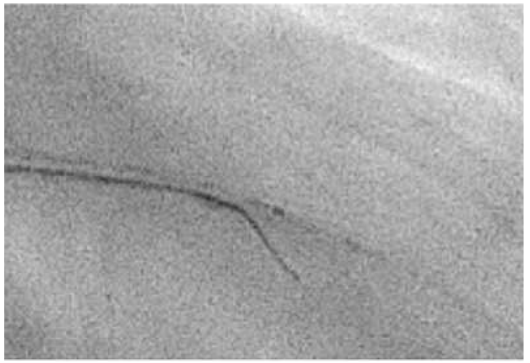
➢slipstream technique

"Slipstream technique" is a new IVUS-guided wiring technique in CTO PCI. This technique helps to catch the true lumen from the side branch or false lumen .



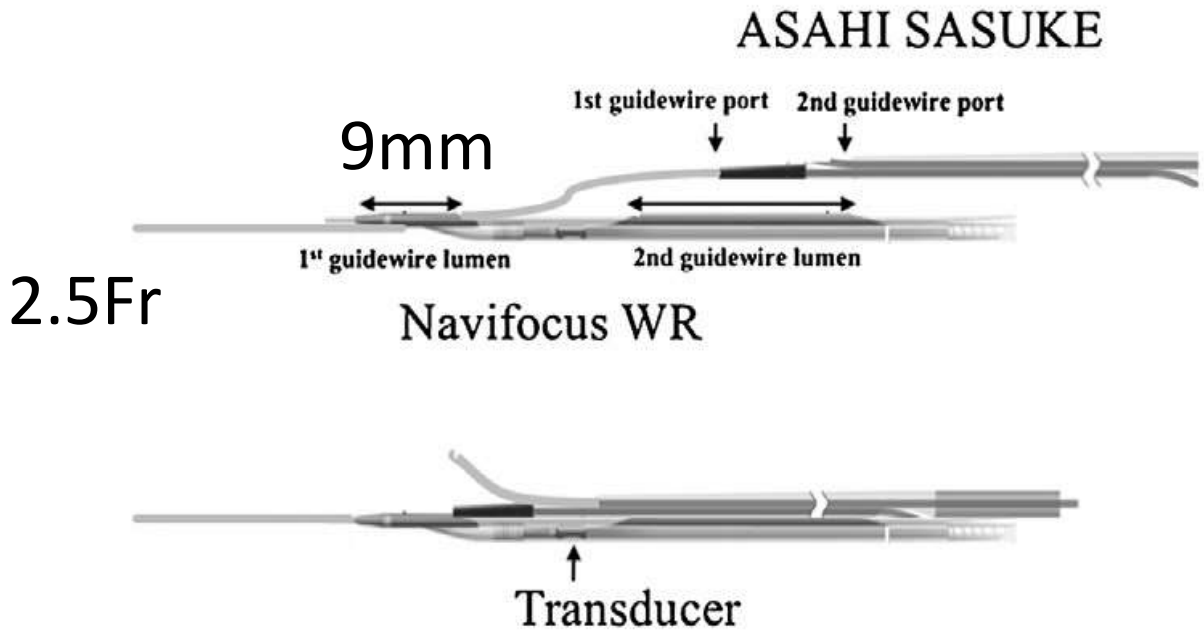


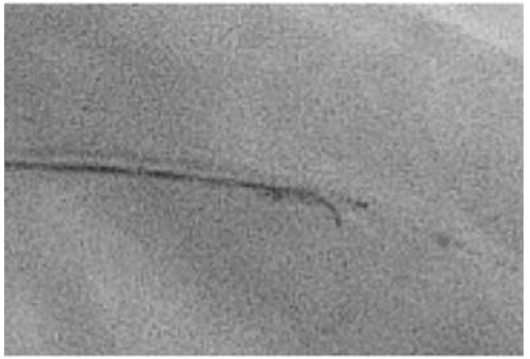


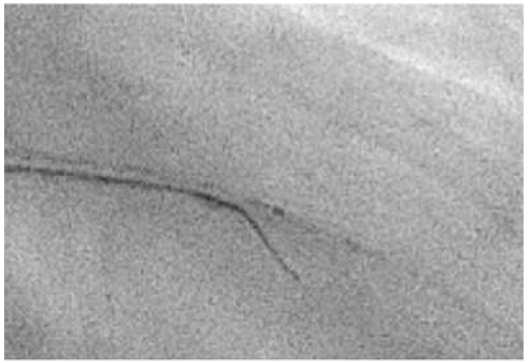
J Cardiol Cases. 2017 May 12;16(2):52-55.

➢slipstream technique

We insert IVUS catheter using only the 1st guidewire lumen. Next, we put the double lumen catheter (SASUKE, Crusade) on the same guidewire which was used in the IVUS catheter and advanced it to the tip of the IVUS catheter.







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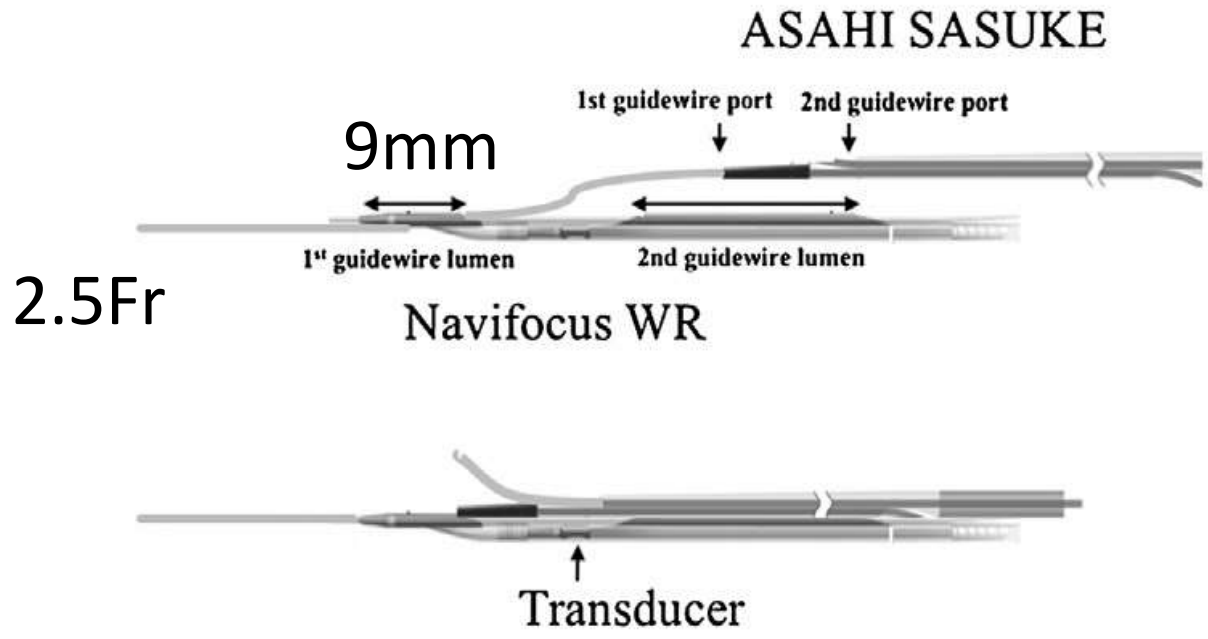
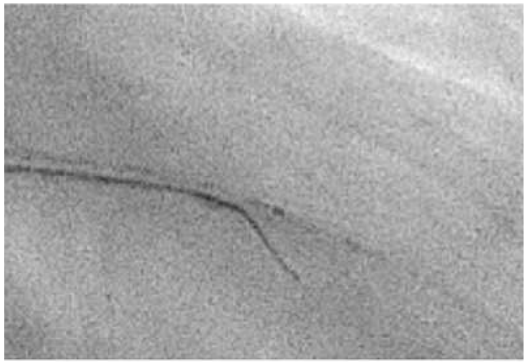
➢slipstream technique

Then 2nd guidewire can be manipulate under IVUS guidance and we can confirm the 2nd guidewire goes into true lumen.

This technique is advantageous when we want to use IVUS and double lumen catheter at the same time.





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Case: A 77-years-old man

- ✓ He was referred to our institute because of suspected ischemic heart disease.
- ✓ He noticed chest oppression on exertion (CCS2) several months ago.

- ✓ Past history: hypertension, diabetes, dyslipidemia, atrial fibrillation
- ✓ Family history: not particular

➢Examination results at admission

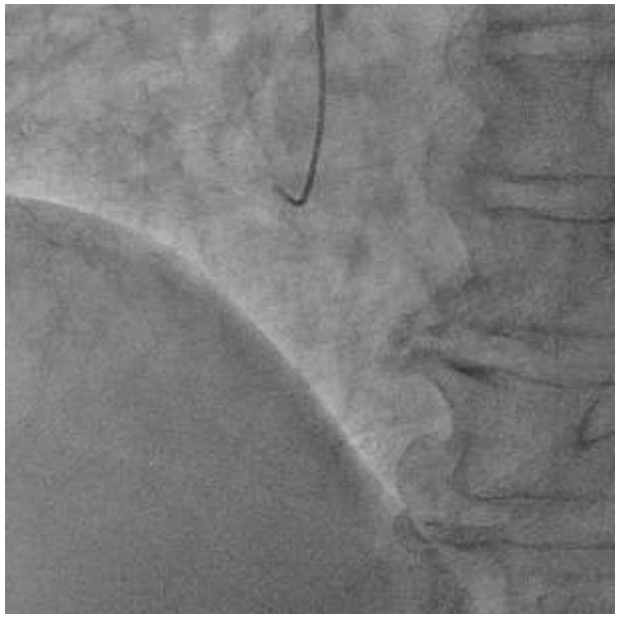
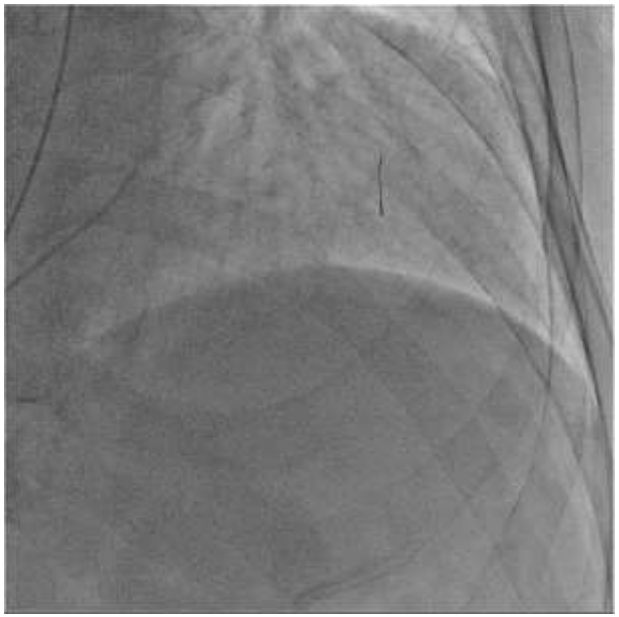
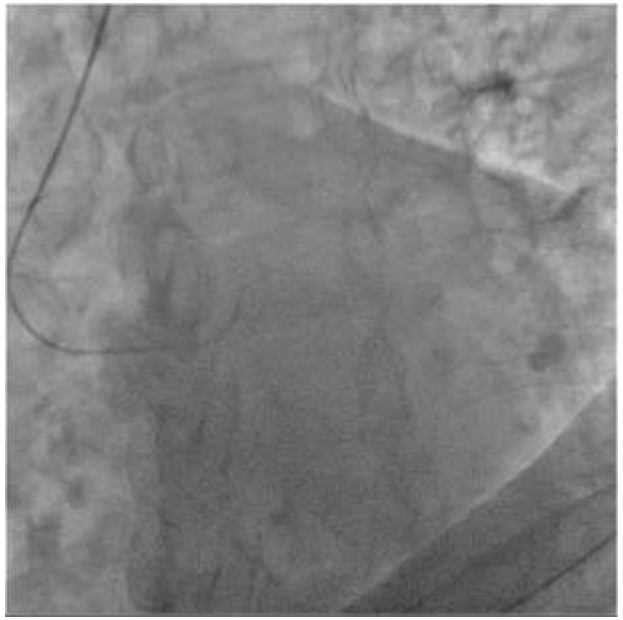
- ✓ ECG: Af rhythm
- ✓ UCG: mildly impaired LV function (EF 41%), mild MR
- ✓ Blood test:

WBC	6160 /μl
RBC	445×10^4 /μl
Hb	14.7 g/dl
Plt	13.9×10^4 /μl
PT-INR	1.57
APTT	34.3 sec

TP	6.8 g/dl
Alb	4.2 g/dl
AST	32 U/L
ALT	24 U/L
ALP	191 U/L
LDH	273 U/L
BUN	14.9 mg/dl
Cre	0.93 mg/dl

Na	142 mEq/l
K	4.5 mEq/l
Cl	105 mEq/l
CPK	90U /L
TG	101 mg/dl
HDL-C	53mg/dl
LDL-C	87mg/dl
HbA1C	7.1 %
BNP	71.8 pg/ml

➢CAG

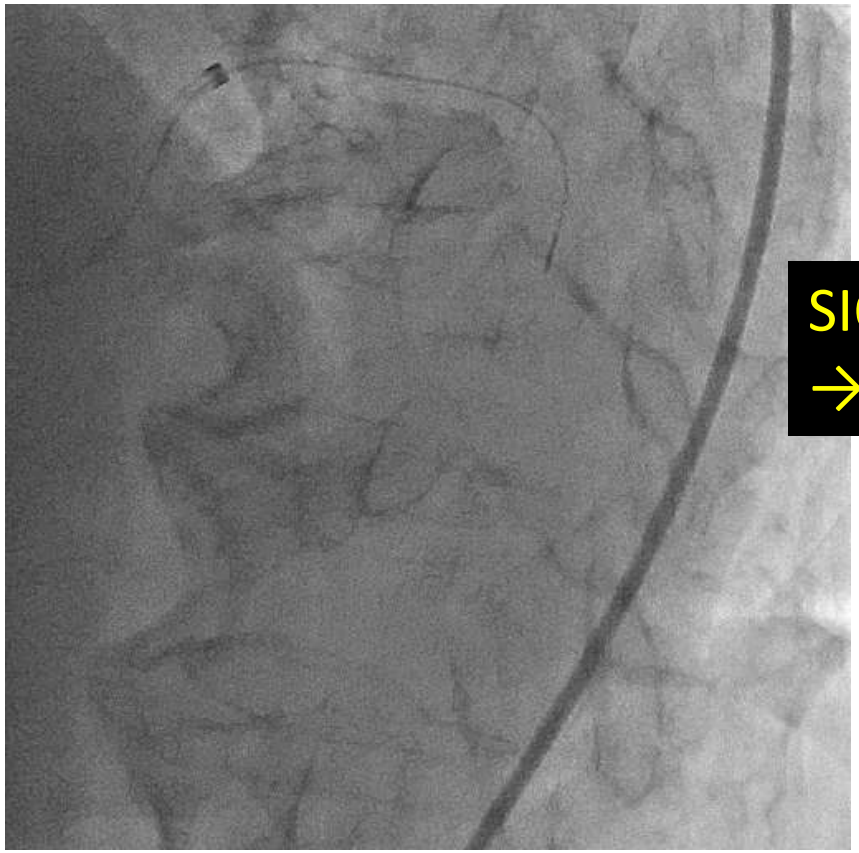
➢PCI to LAD (final angiography)

Ultimaster 2.5mm / 38mm, Ultimaster 2.5mm / 15mm

➢Procedure steps

TFI
GC ; ASAHI Hyperion 8Fr,AL1.5SH

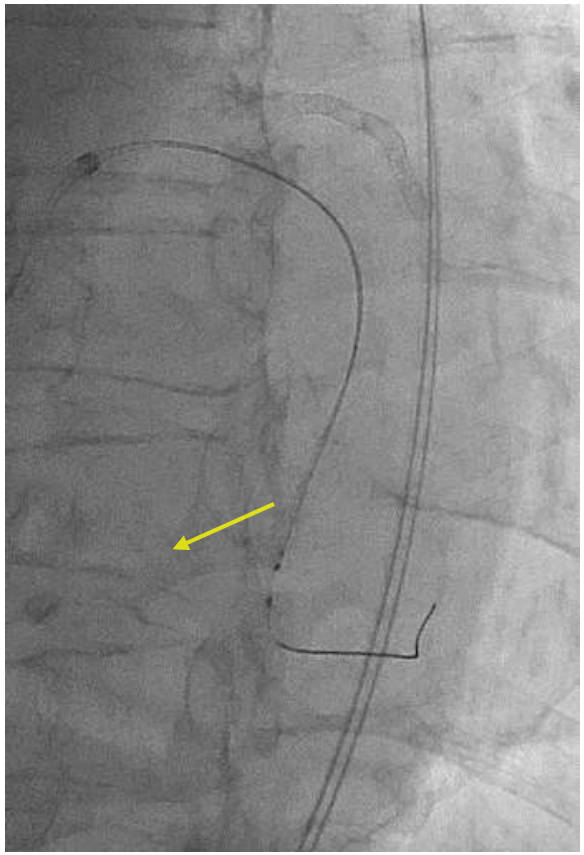
➢Procedure steps

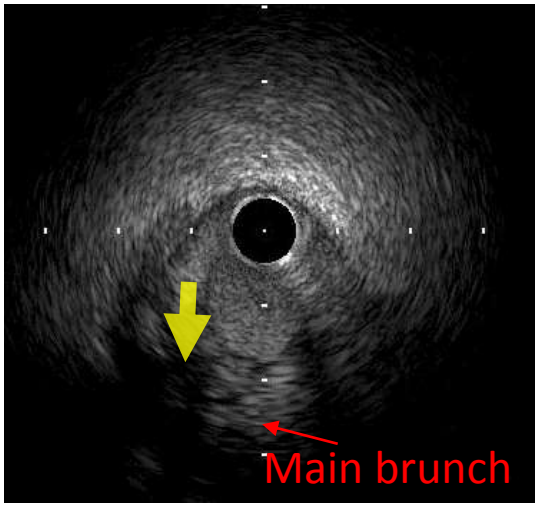


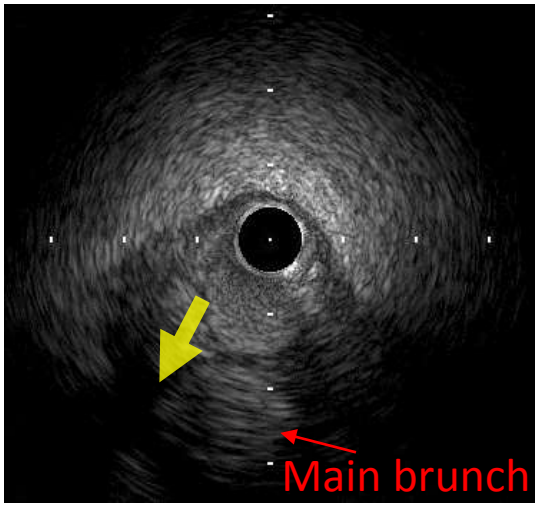
SION blue + Caravel
→ XT-R

➢Procedure steps

“Slipstream technique”







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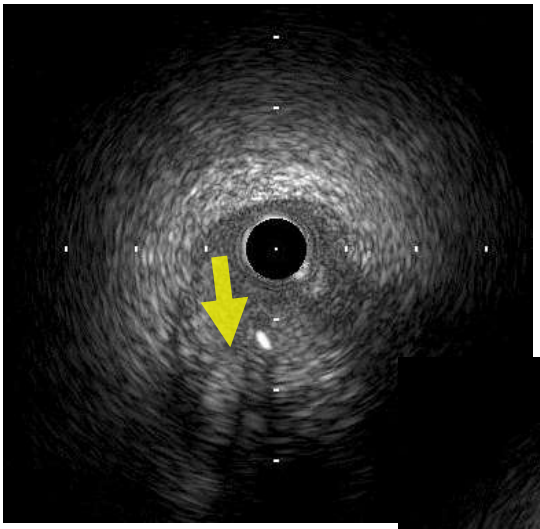

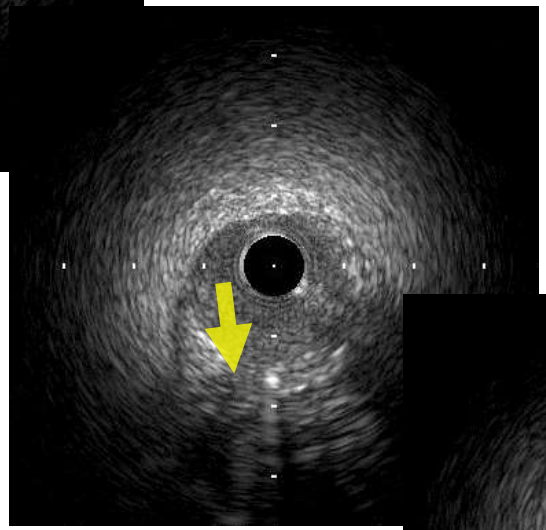

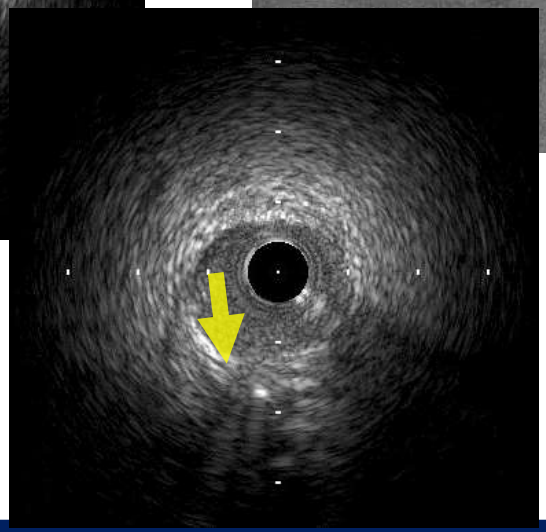

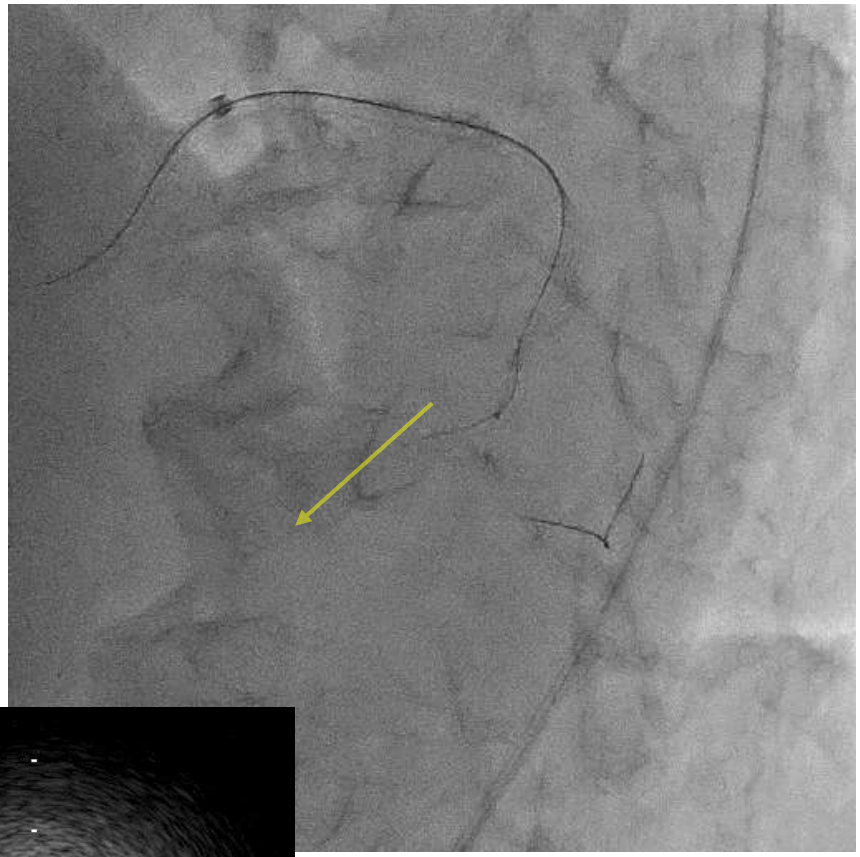

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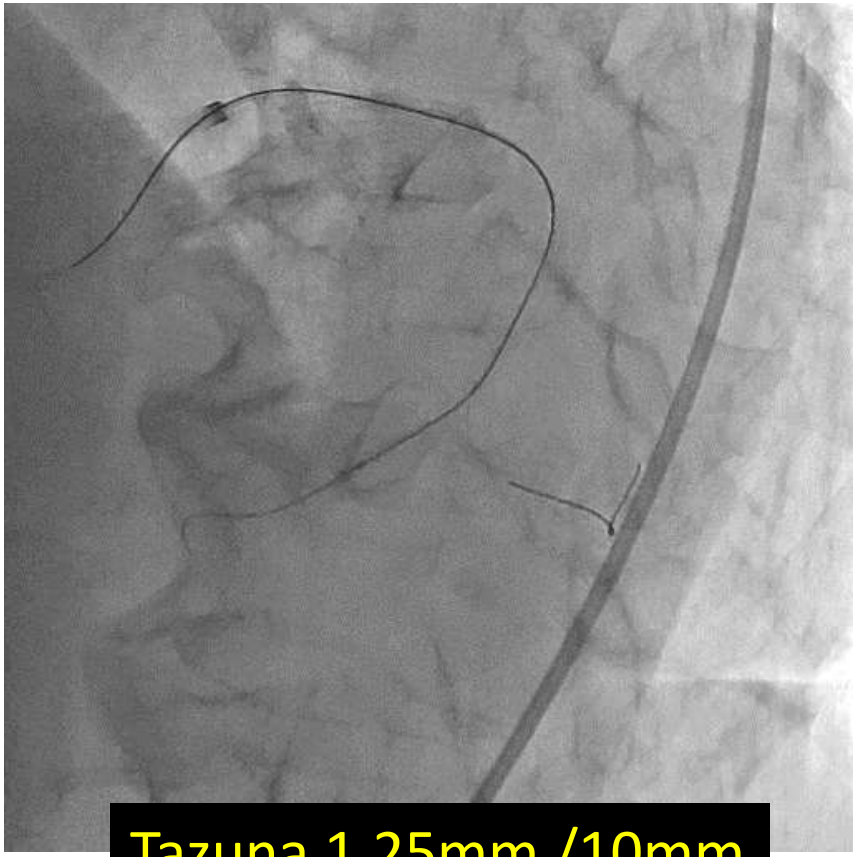
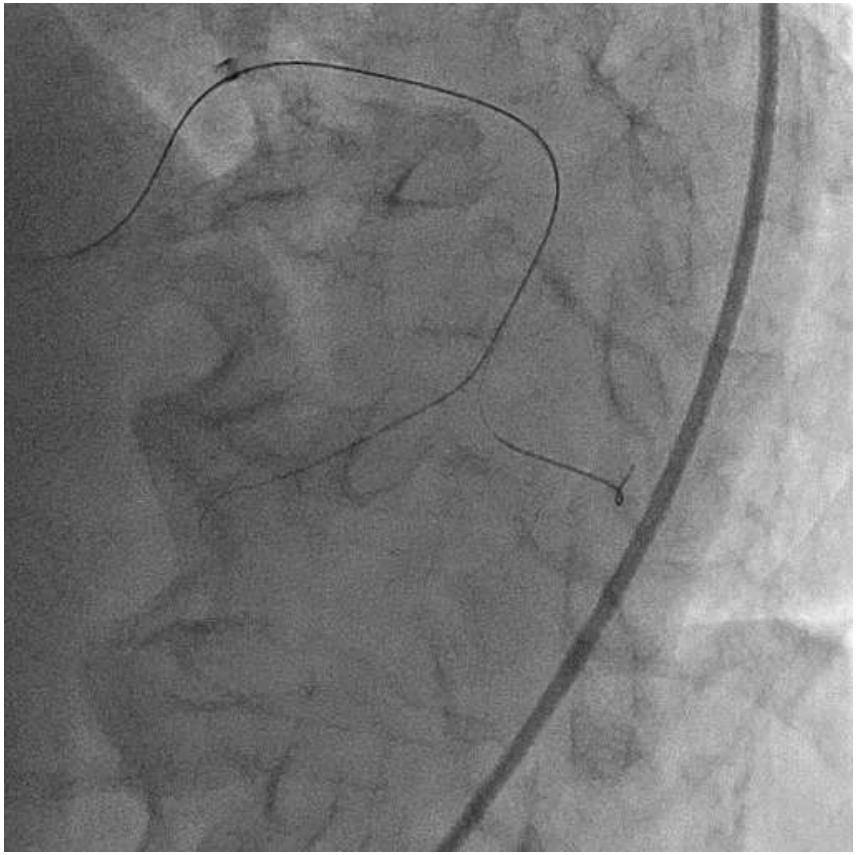


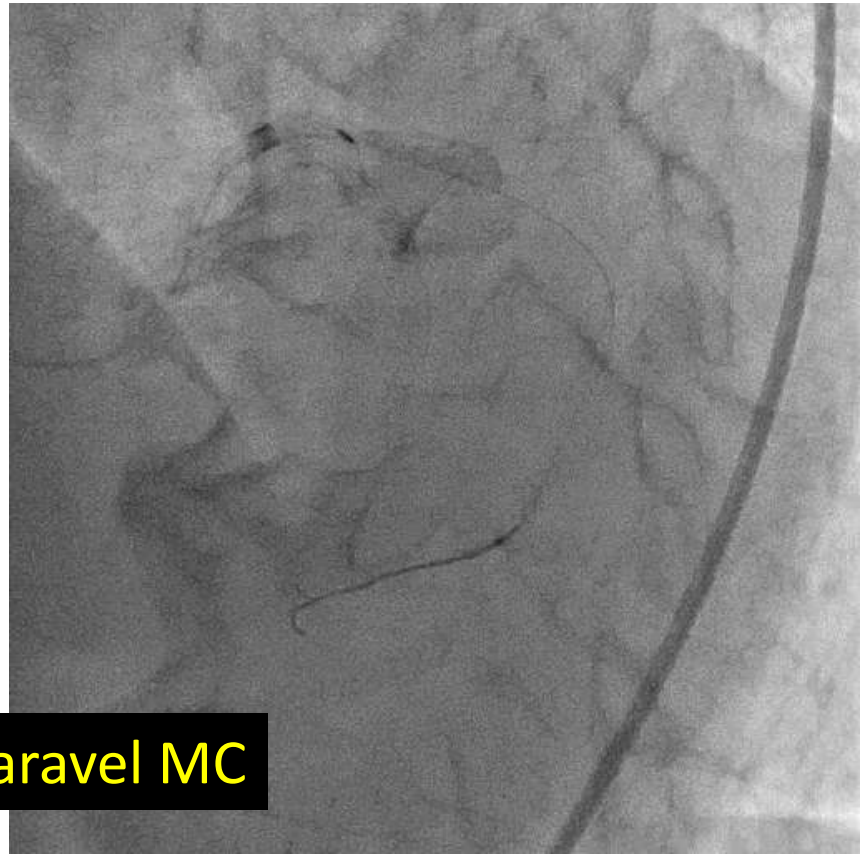
Here…

➢Procedure steps



Perforation…

➢Procedure steps



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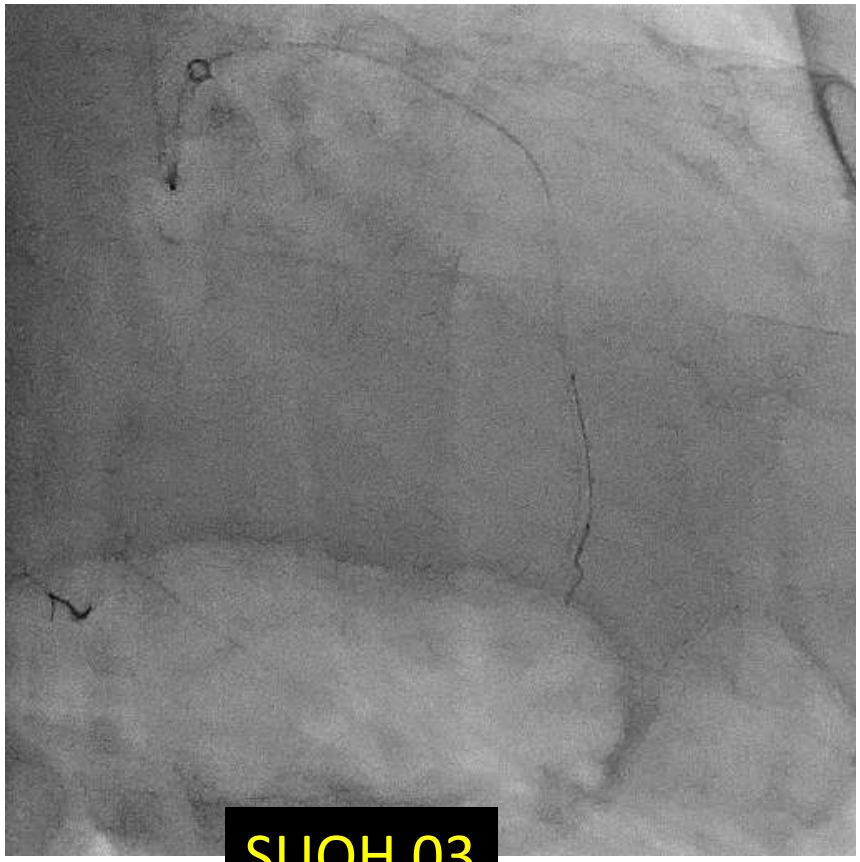

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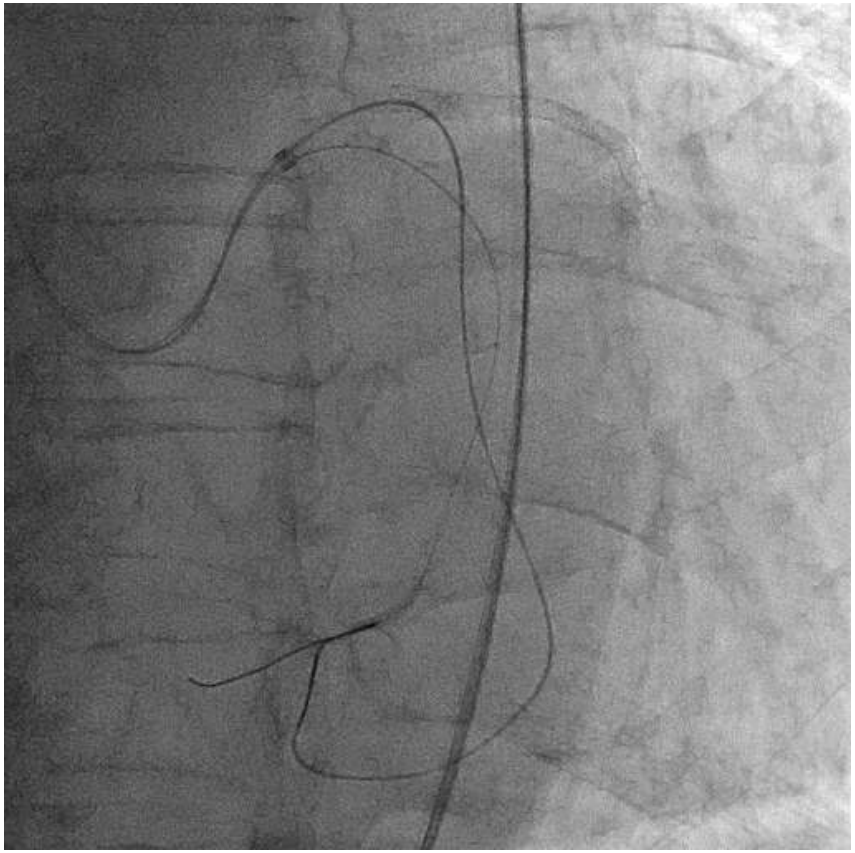

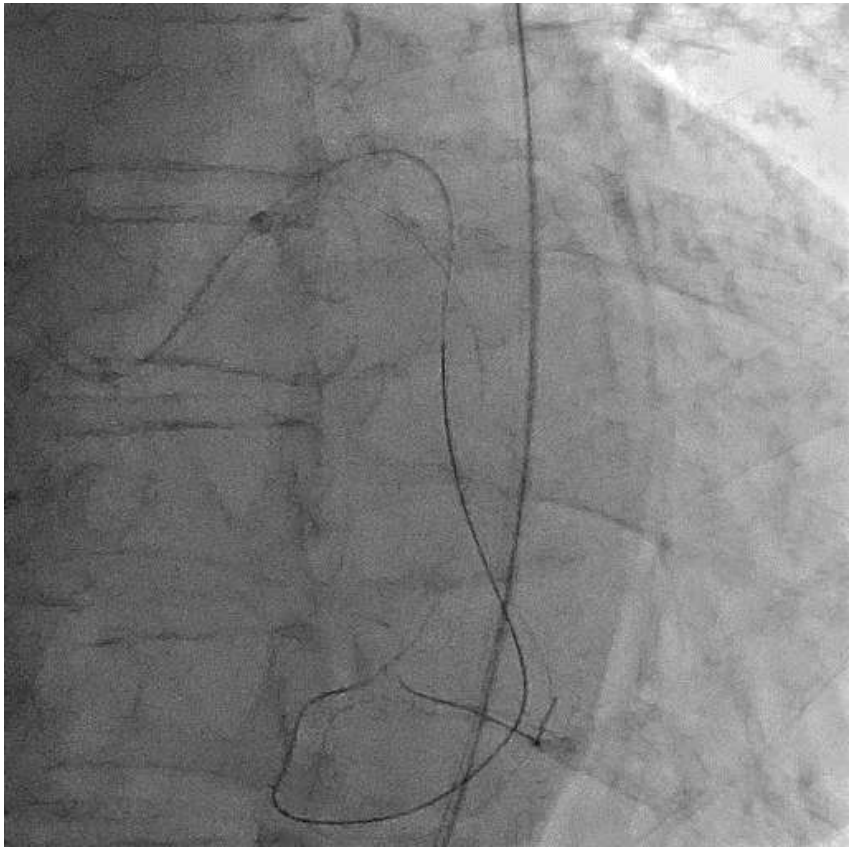

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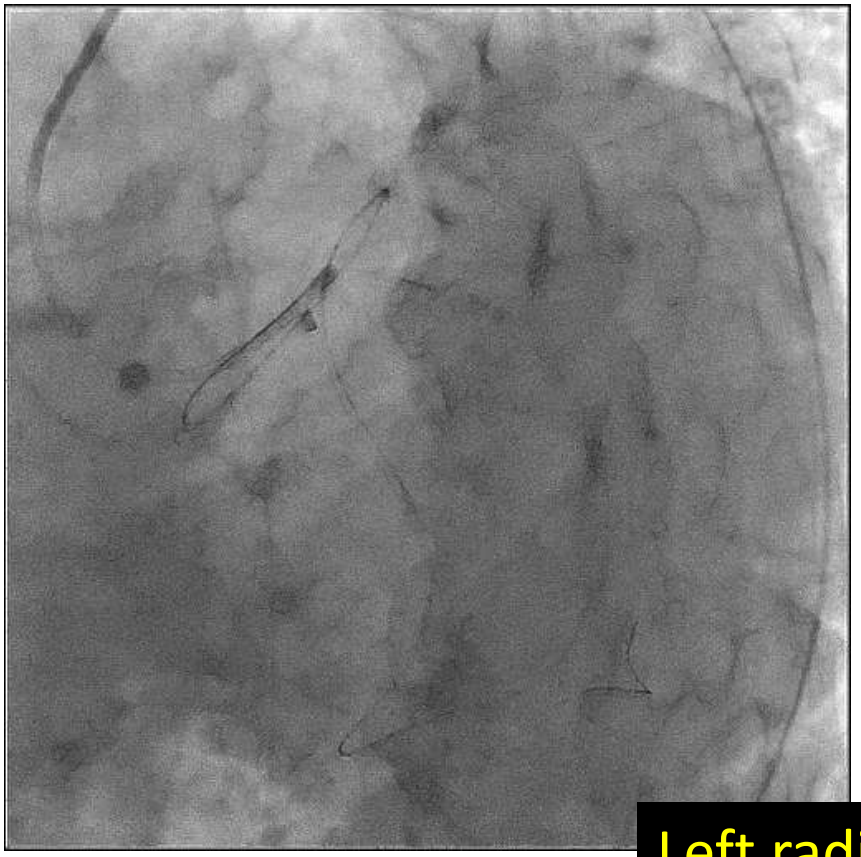
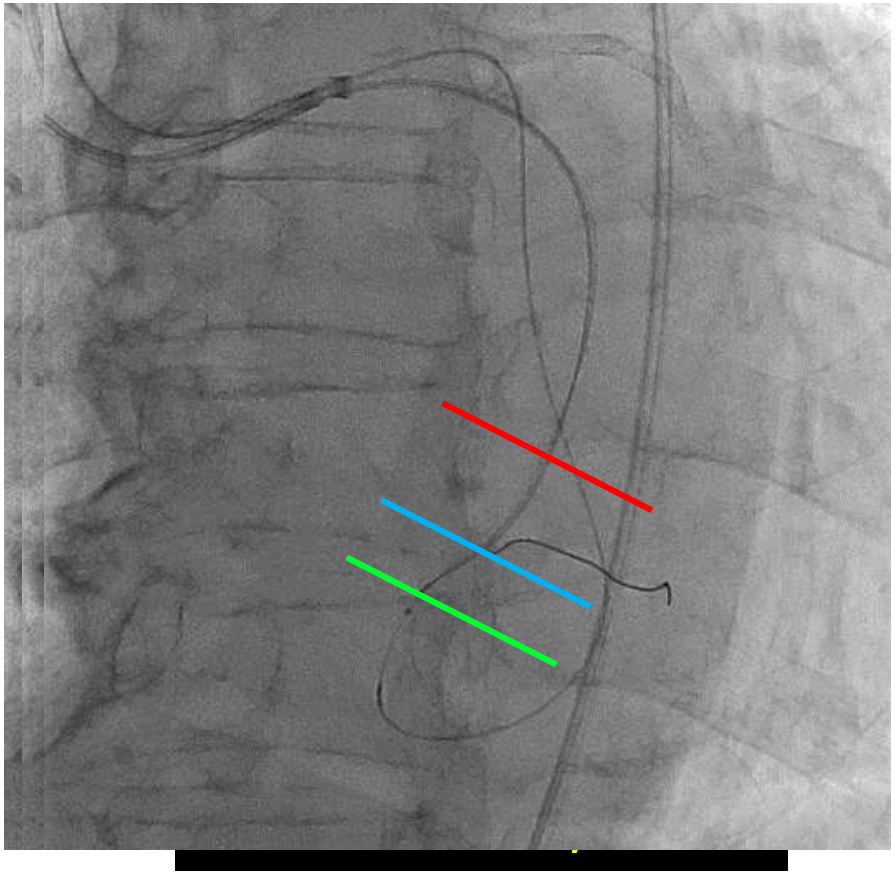
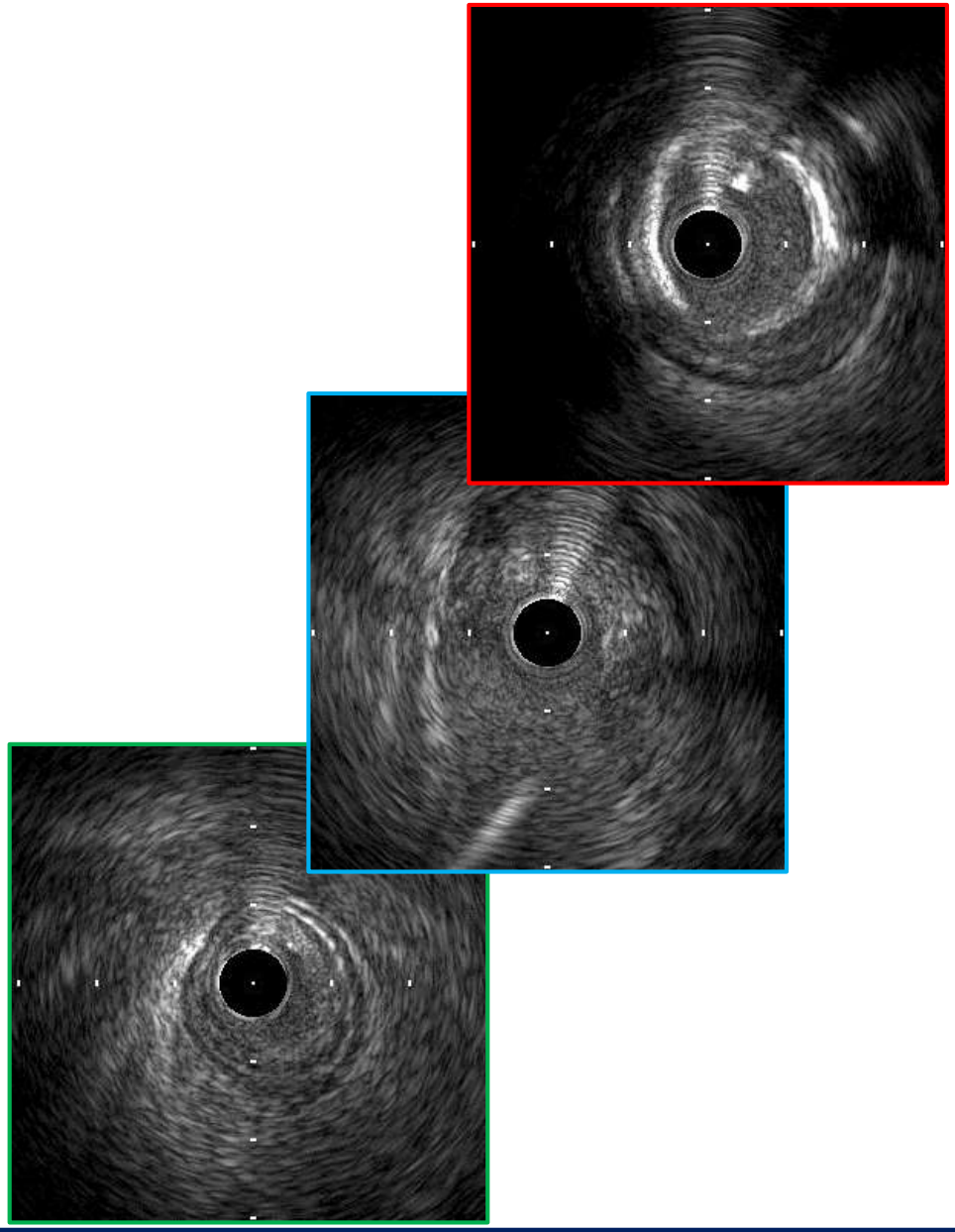


Left radial artery : 6F GC

➢Procedure steps





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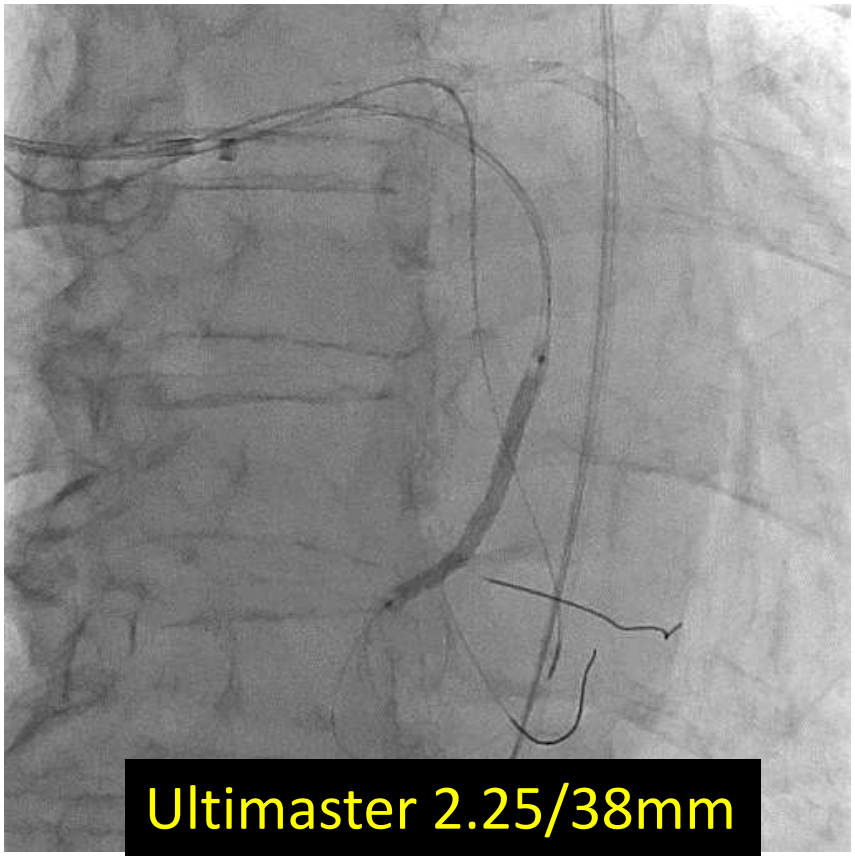

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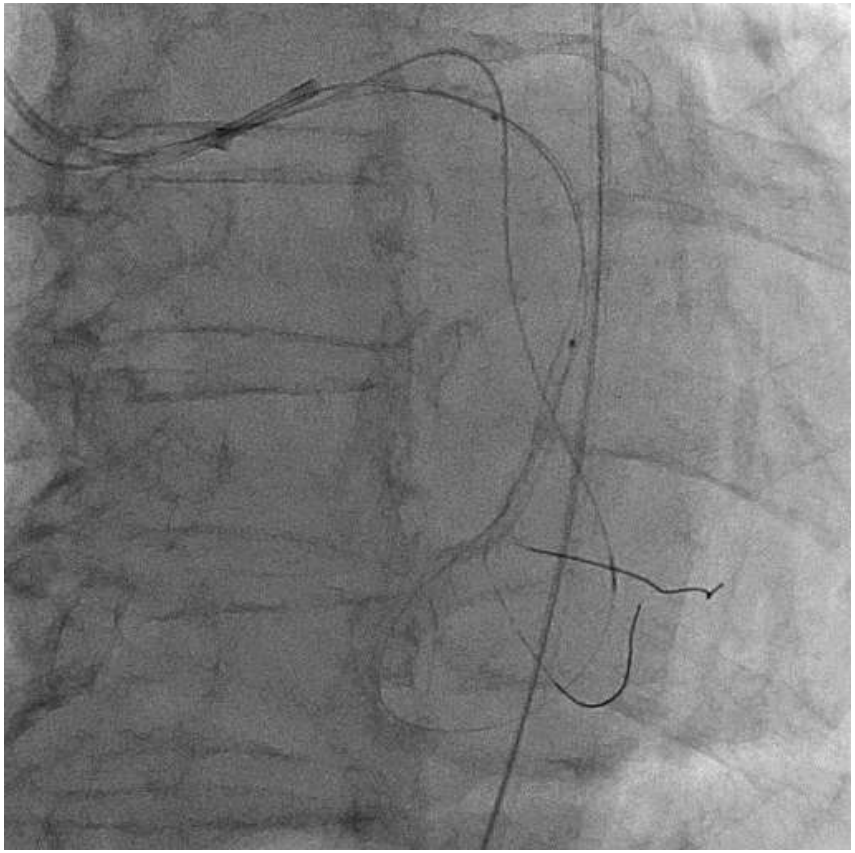
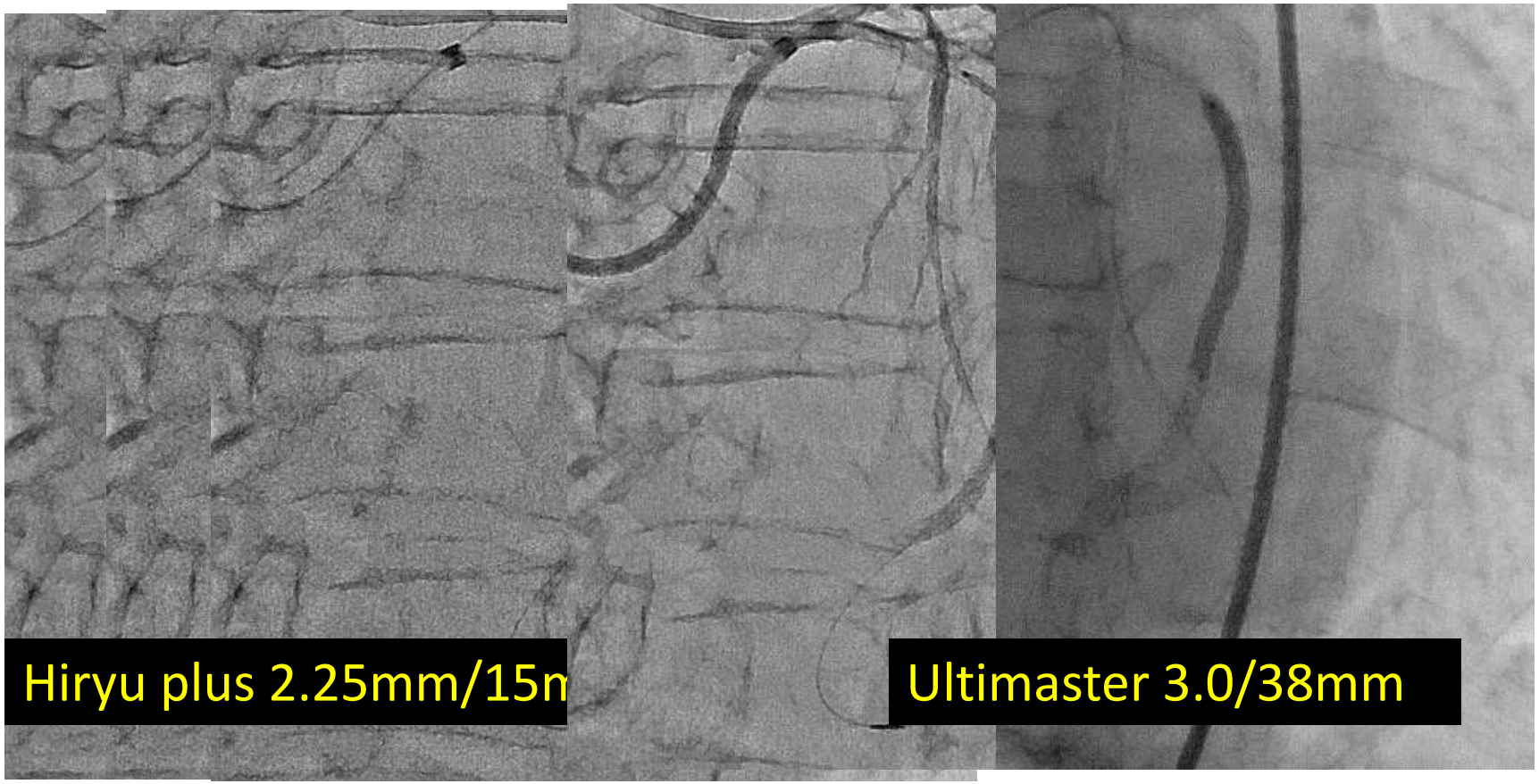


Bleeding stop.

➢Procedure steps



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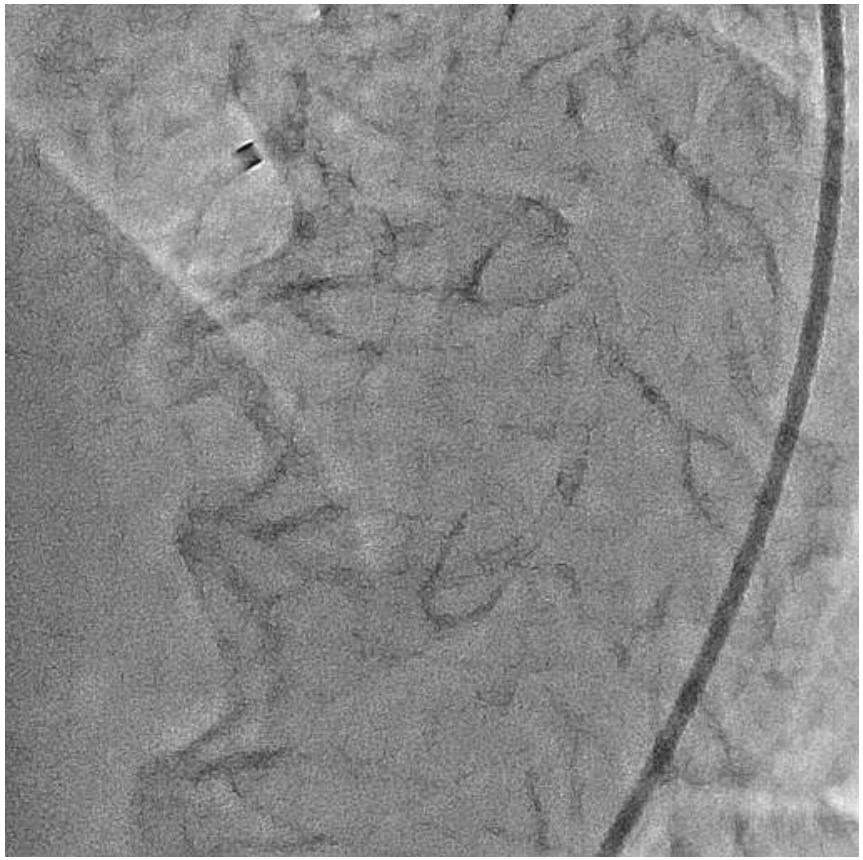

➢Summary & Conclusions

- ✓We reported a case of CTO recanalization in the dominant distal LCX by using “slipstream technique” with various complications.
- ✓In our case, the guide wire went into the false lumen, led to vessel perforation. However, we successfully managed vessel perforation by passing a guide wire through the true lumen retrogradely and putting stents.

➢Summary & Conclusions

- ✓In order to improve the performance and safety of CTO PCI, it is important to master more innovative catheter procedures like “slipstream technique” and the recovery skills for various situation.

Thank you for your attention !