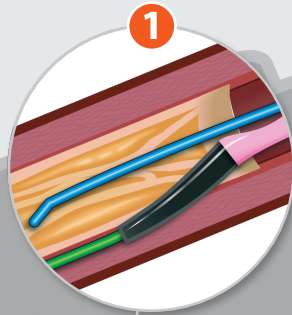
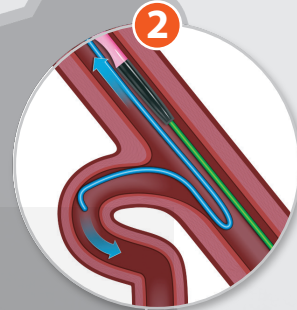


# ASAHI SASUKE CASE REPORTS

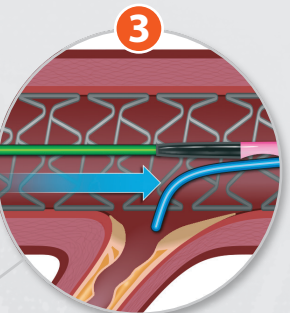
## Subintimal Anchor Technique



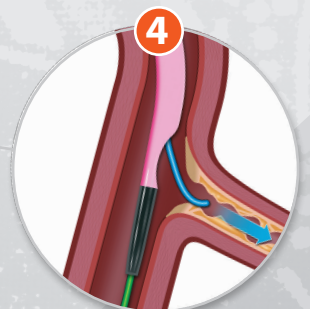
## Reverse Wire Technique



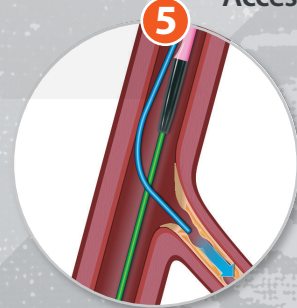
## Side Branch Anchor Technique



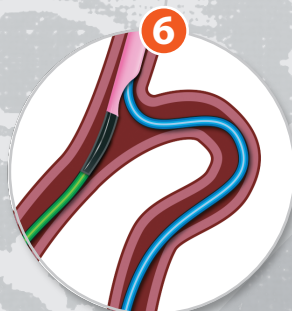
## Side Branch Access Through Stent Strut



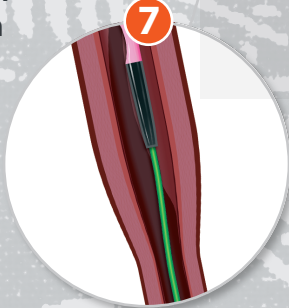
## Access to Side Branch Occlusion



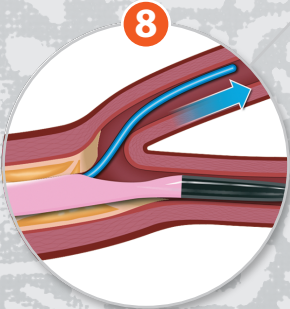
## Side Branch Wiring with ASAHI SASUKE Facing Opposite Direction



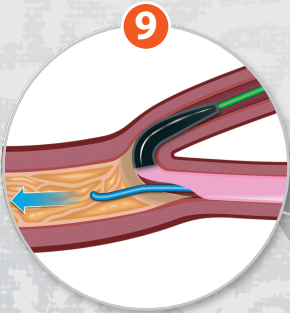
## Retrograde Tip Injection and Access



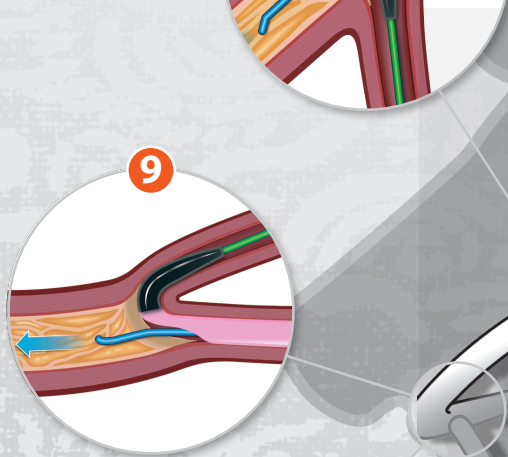
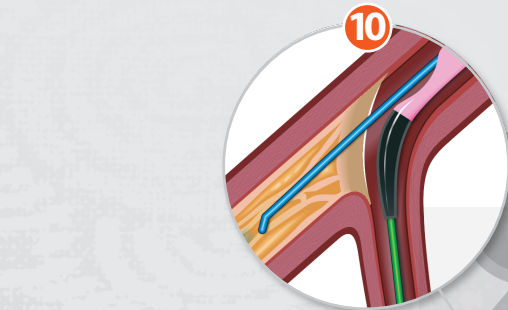
## Selective Injection



## Protection of Side Branch



## Retrograde Anchor Technique

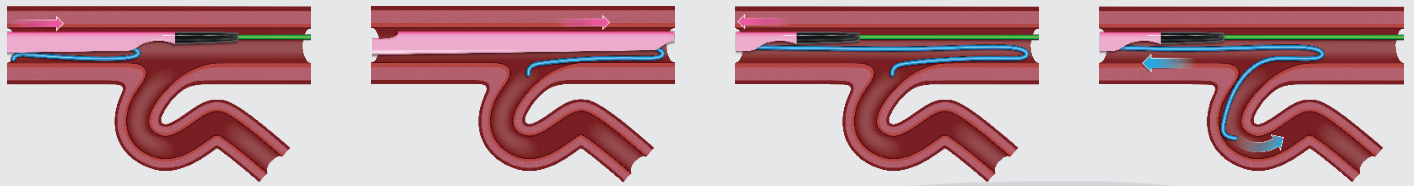




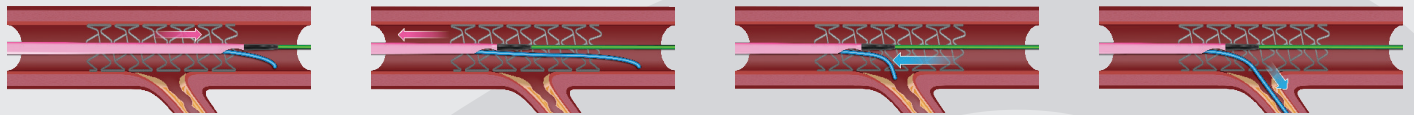
**1 Subintimal Anchor Technique**



**2 Reverse Wire Technique**



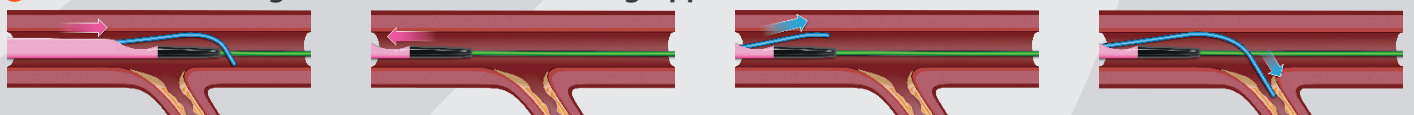
**3 Side Branch Access Through Stent Strut**



**4 Access to Side Branch Occlusion**



**5 Side Branch Wiring with ASAHI SASUKE Facing Opposite Direction**



**6 Retrograde Tip Injection and Access**



**7 Selective Injection**



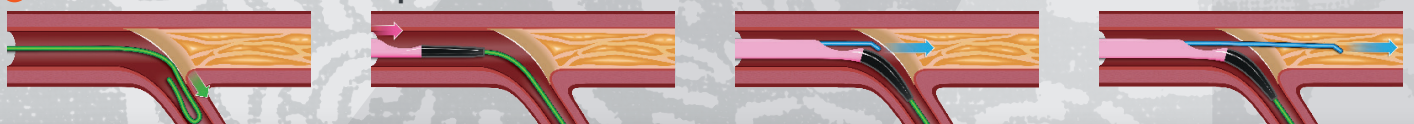
**8 Protection of Side Branch**



**9 Retrograde Anchor Technique**

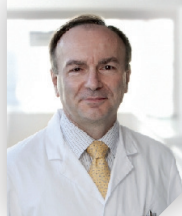


**10 Side Branch Anchor Technique**



# ASAHI SASUKE: Table of Contents

## Physician on case:



**Klinikum  
Darmstadt**

Darmstadt,  
Germany

**Subintimal Anchor Technique by:**  
Prof. Dr. Gerald S. Werner

..... **Pages:** 3 - 5



**Hospital  
Universitario  
Clínico San  
Carlos**

Madrid, Spain

**Subintimal Anchor Technique by:**  
Dr. Javier Escaned

..... **Pages:** 7 - 9



**Universitäts-  
Herzzentrum  
Freiburg**

Bad Krozingen,  
Germany

**Side Branch Anchor Technique by:**  
Dr. Kambis Mashayekhi

..... **Pages:** 11 - 13



**North Estonia  
Medical Centre**

Tallinn, Estonia

**Side Branch Anchor Technique by:**  
Dr. Peep Laanmets

..... **Pages:** 15 - 16



**Royal Victoria  
Hospital**

Belfast,  
Northern  
Ireland

**Retrograde Anchor Technique by:**  
Dr. Colm Hanratty

..... **Pages:** 17 - 18





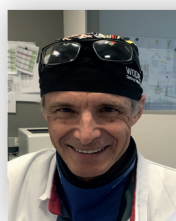
**P. Stradins  
University  
Hospital**

Riga, Latvia

**Retrograde Anchor Technique by:**

Dr. Dace Sondore

..... **Pages:** 19 - 21



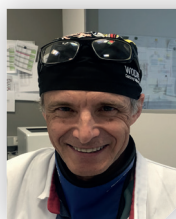
**Ziekenhuis  
Oost-Limburg**

Genk, Belgium

**Reversed Retrograde Anchor Technique by:**

Prof. Dr. Joseph Dens

..... **Pages:** 23 - 25



**Ziekenhuis  
Oost-Limburg**

Genk, Belgium

**Protection of Side Branch by:**

Prof. Dr. Joseph Dens

..... **Pages:** 27 - 28



**Ziekenhuis  
Oost-Limburg**

Genk, Belgium

**Distal main vessel pick-up via ASAHI SASUKE  
over an externalized ASAHI RG3 by:**

Prof. Dr. Joseph Dens

..... **Pages:** 29 - 31



**Hospital  
Universitario**

Galdakao,  
Spain

**Slip Stream Technique – IVUS & ASAHI SASUKE  
by:**

Dr. José Ramón Rumoroso

..... **Pages:** 33 - 35



**Toyohashi  
Heart Center**

Toyohashi,  
Japan

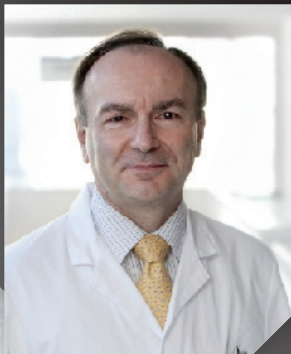
**ASAHI SAUKE Multi-Use Techniques by:**

Dr. Yoshihisa Kinoshita

..... **Pages:** 37 - 40

# Subintimal Anchor Technique

Prof. Dr. Gerald S. Werner



**Klinikum  
Darmstadt**

Darmstadt,  
Germany

1

## Case Background

- Male, 50 years old
- LAD CTO: J-CTO 3 (Re-attempt, >20mm, blunt)
- Previous inferior myocardial infarction (Dec. '17)
- Post PCI for RCA and LCX NYHA I, CCS III
- Risk factors: dyslipidemia, smoking, family history

2

## The Technique

When the guide wire enters the subintimal plane, leave it there and utilise that wire position as a landmark for a second guide wire to be advanced for the intentional intimal plaque tracking: Advance ASAHI SASUKE down the wire placed in the subintimal plane through the RX lumen. To get extra support for optimal

wire control, stabilise ASAHI SASUKE by positioning the OTW lumen exit in front of the proximal cap. Now, insert a second guide wire through the OTW lumen and deploy intimal plaque tracking technique until puncturing of the distal CTO cap, using the guide wire in the subintimal place as a landmark.

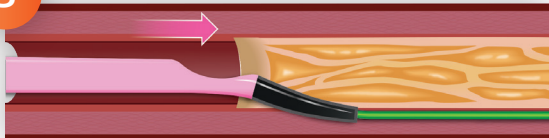
1



2



3



4





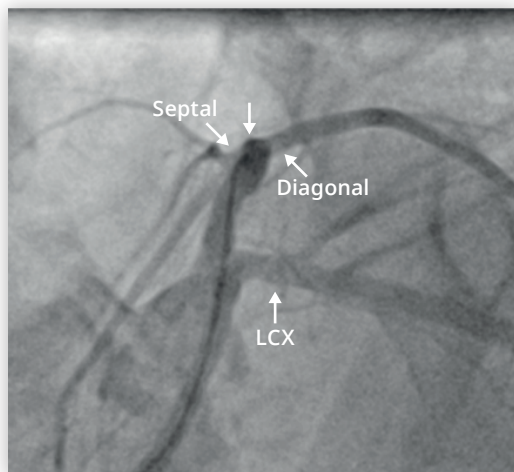
### 3 The Intervention

Bilateral femoral artery access was obtained using 7Fr sheath from right femoral and 4Fr sheath from left femoral.

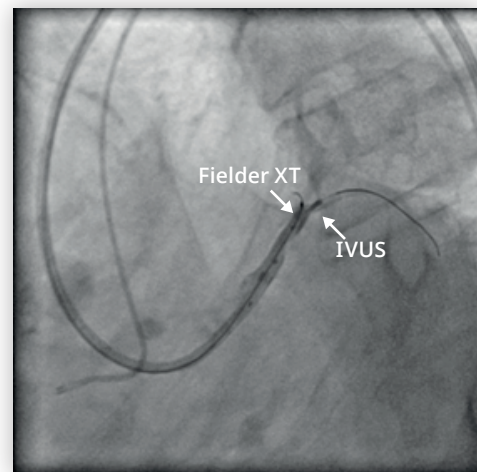
A 7Fr EBU3.75 guide catheter with side holes was engaged in the left main coronary artery and a 4Fr AR1.0 diagnostic catheter was used for the right coronary artery (RCA). The angiogram showed a total occlusion of the proximal left anterior descending artery (LAD), and was supplied by collaterals from the RV branch, septal branch and diagonal branch (Fig. 1).

A Fielder XT wire was advanced on a Finecross microcatheter into the proximal CTO cap with Intravascular Ultrasound (IVUS)

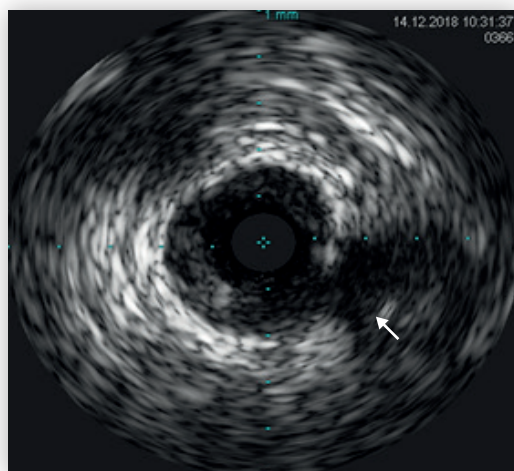
guidance (Fig. 2A, 2B). However, after passing through the proximal cap, the Fielder XT wire went into the subintimal space (Fig. 2C). Therefore, an ASAHI SASUKE double lumen catheter was advanced over a Fielder XT wire and a second, stiffer wire (ASAHI Confianza Pro 12) was advanced from the side port of the ASAHI SASUKE in subintimal anchor technique along the first wire. Finally, the ASAHI Confianza Pro 12 wire was successfully passed towards the distal CTO cap and passed luminally (Fig.3). The stent sizing and positioning were done with IVUS. Final angiography showed an excellent result without any complications (Fig.4B).



1. The proximal LAD is totally occluded (arrowheads).



2A. IVUS catheter was advanced into the diagonal branch and a Fielder XT wire could penetrate the proximal cap of LAD CTO.

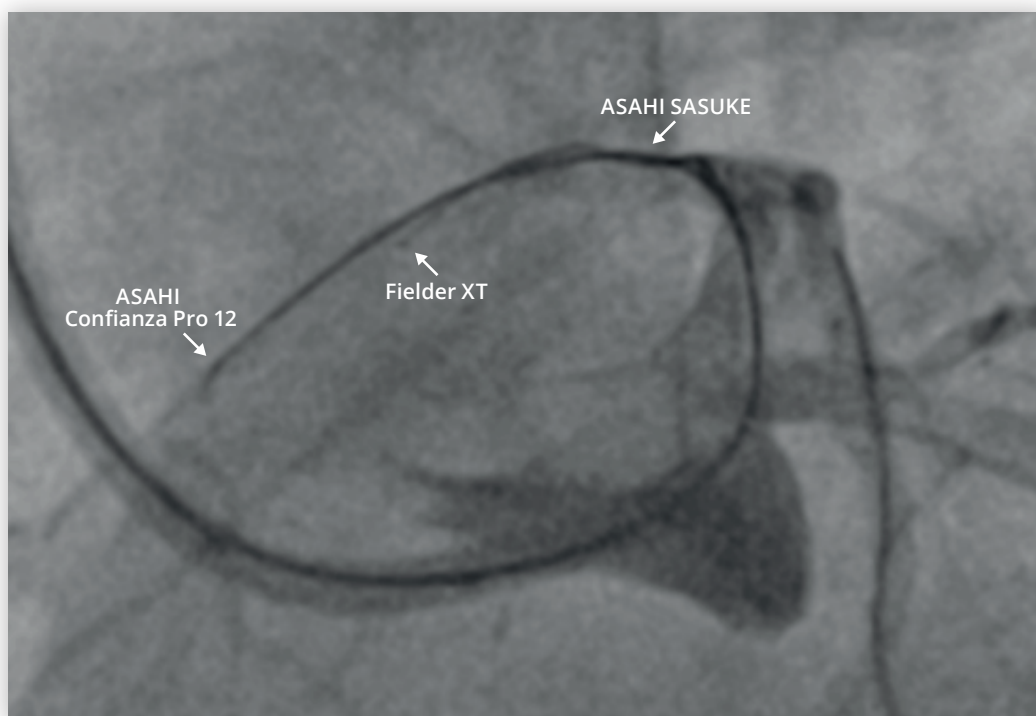


2B. IVUS showed the Fielder XT wire in the central position of the LAD (arrow).

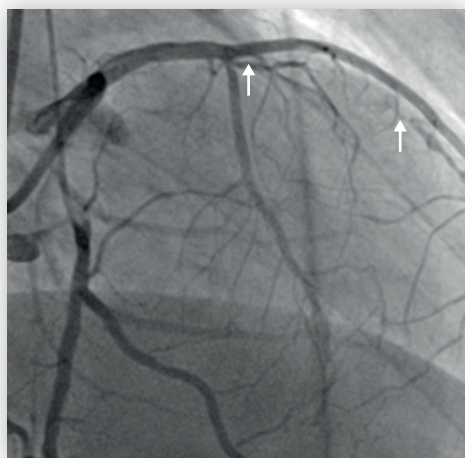


2C. A Fielder XT wire went then into the subintimal space (arrow).

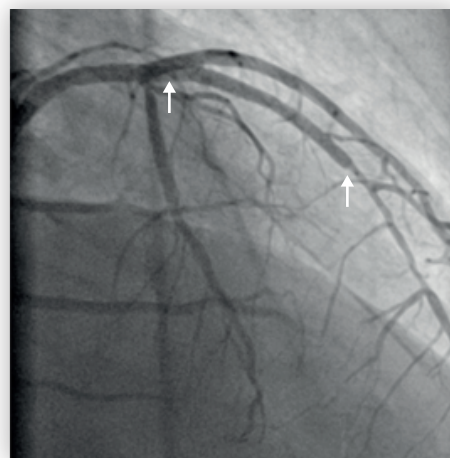
### 3 The Intervention *(continued)*



3. An ASAHI Confianza Pro 12 was successfully passed CTO with ASAHI SASUKE.



4A. Before PCI.



4B. Final angiography.

### 4 In Summary

We could succeed with this percutaneous coronary intervention (PCI) for a CTO of the proximal LAD by the antegrade approach using subintimal anchor technique and IVUS guidance.

IVUS was helpful to detect the entry point and to confirm the wire position.

The ASAHI SASUKE could easily advance into the proximal cap of the CTO and stabilize the position. It provided a good support and control for a second wire.

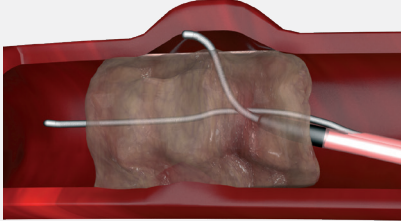


# ASAHI SASUKE:

the next generation of double lumen catheter

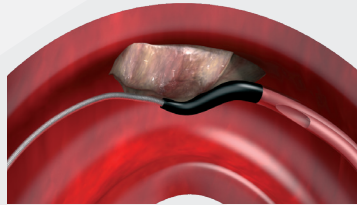
## 6.5mm

TIP TO OTW PORT



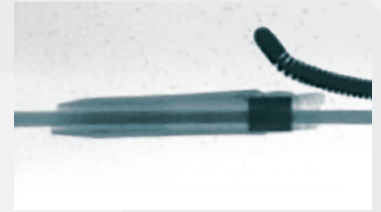
*6.5mm tip to OTW port - short tip negates the need for deep engagement inside branches and CTOs*

## TAPERED SOFT TIP



*Tapered soft tip - provides high trackability*

## VISIBLE EXIT



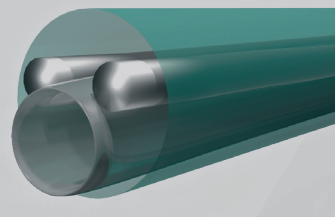
*Visible exit - know exactly where the wire is exiting*

## OVAL DESIGN



*Oval design - more stability against vessel wall*  
a) 1.08mm (3.3Fr) x  
b) 0.84mm (2.5Fr)

## DOUBLE STAINLESS STEEL CORE



*Double stainless steel core - kink resistance and pushability*

## LUBRICITY

# x50

*Lubricity - L<sup>3</sup> Coating (long lasting lubricity) maintains trackability*



Your dreams. Woven together.

## ASAHI INTECC

# Subintimal Anchor Technique

Dr. Javier Escaned



**Hospital  
Universitario  
Clínico San  
Carlos**

Madrid, Spain

1

## Case Background

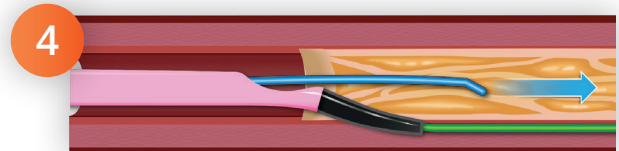
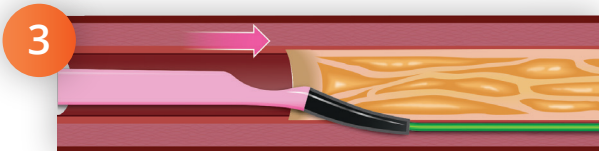
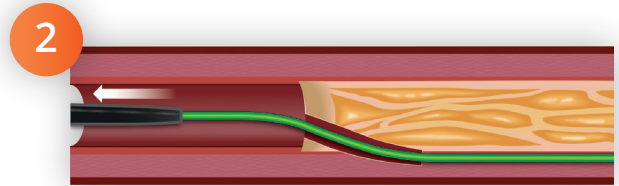
- Male, 73 years old
- Stable angina with infero-lateral hypokinesia
- Coronary angiography with CTO of mid-LCX and moderate stenosis in mid-LAD
- J-CTO score 1

2

## The Technique

Entering the false lumen while treating a coronary total occlusion is not uncommon. Once noticed, sometimes, is difficult to return to the true lumen. ASAHI SASUKE double lumen catheter can be useful when this event

happens, giving the opportunity to use a second wire with a more proximal and angulated take-off to gain access to the true lumen.



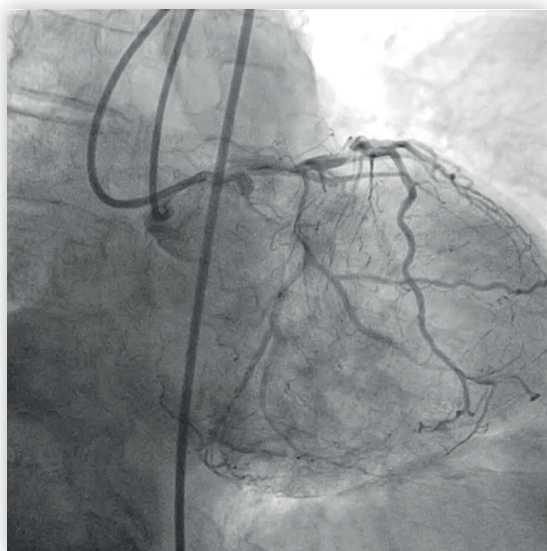


### 3 The Intervention

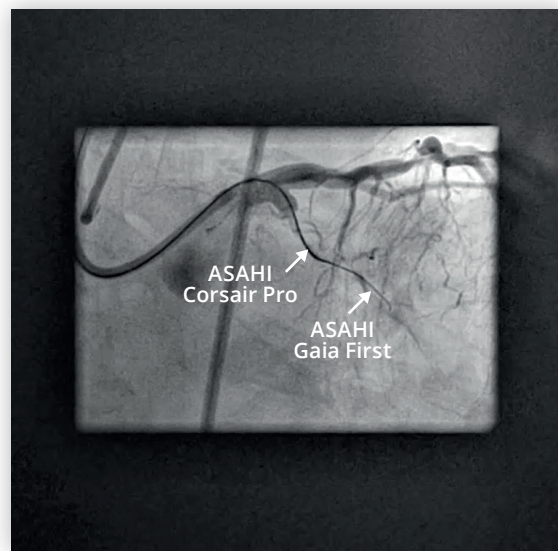
After the diagnostic angiogram, treatment for LCX CTO was planned. Anatomical characteristics of the lesion were adequate for antegrade approach. In the first attempt, a Fielder XT-A guide wire was used, unsuccessfully. After that, an ASAHI Gaia First guide wire with the support of an ASAHI Corsair microcatheter was able to cross the

lesion.

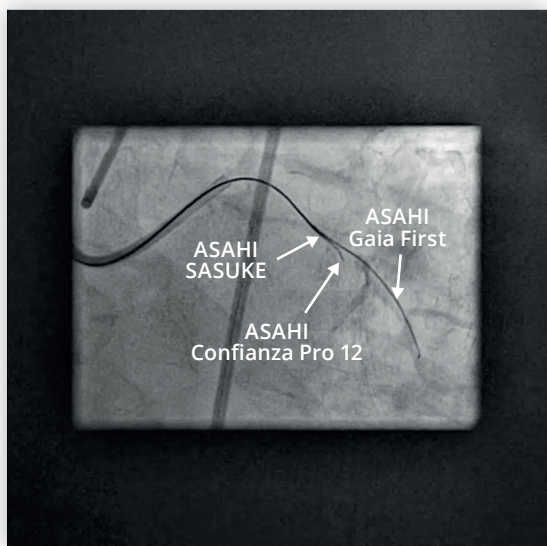
However, there was a high suspicion of subintimal progression of the ASAHI Gaia First guide wire. For that reason, the microcatheter was exchanged for ASAHI SASUKE, the second ASAHI Confianza Pro 12 wire was used as a second wire across its lateral exit to access the true lumen.



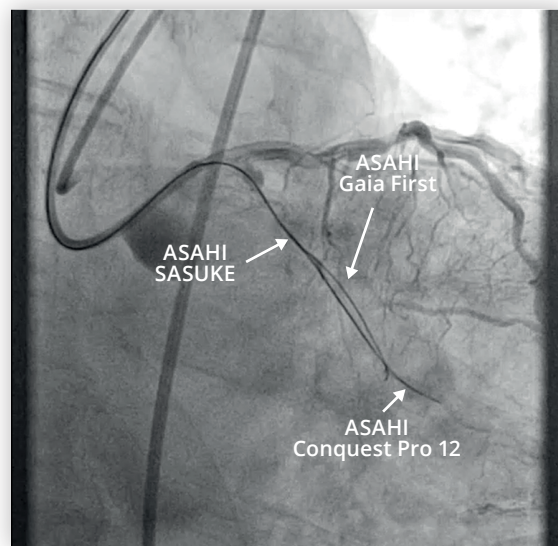
1. Initial angiogram showing proximal LCX CTO. J-CTO score 1.



2. ASAHI Gaia First in the subintimal space after crossing CTO.



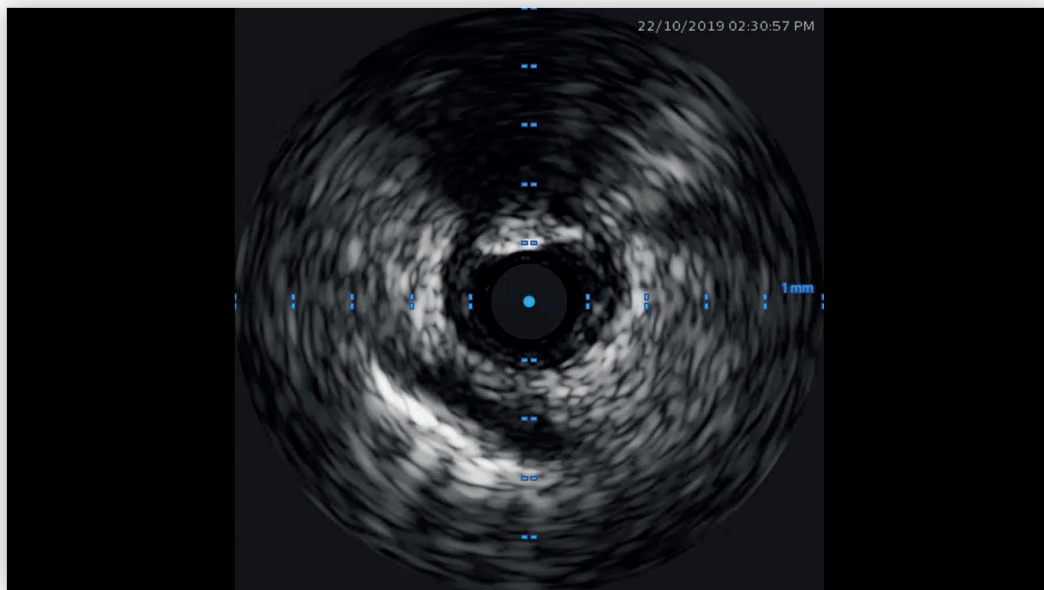
3. Using ASAHI SASUKE to access true lumen with the second ASAHI Confianza Pro 12.



4. True lumen re-wired with ASAHI Confianza Pro 12 and ASAHI Gaia First still present in false lumen.

### 3 The Intervention *(continued)*

IVUS was performed to verify wire position in true lumen before carrying out stent placement.



3. IVUS showing wire in true lumen.



4. Final result.

### 4 In Summary

The use of ASAHI SASUKE provides unique technical advantages to precisely direct a second wire towards the true lumen in cases

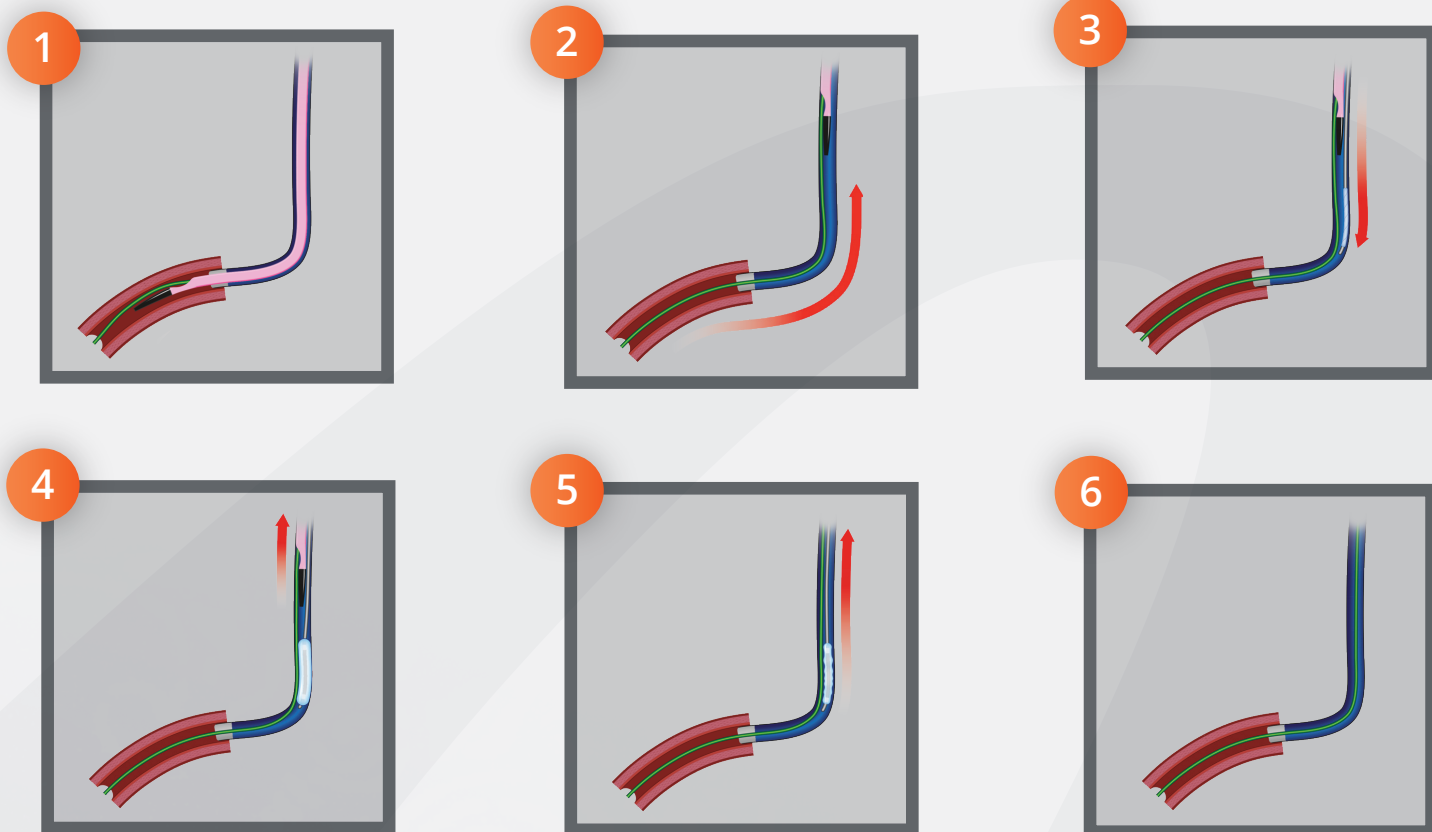
which the first wire went subintimal.

These characteristics allowed us to successfully complete this CTO procedure.



# ASAHI SASUKE:

## Balloon Trapping



## ASAHI SASUKE Compatibility

	Guide Catheter 6FR	Guide Catheter 7FR	Guide Catheter 8FR
TRAPPER	O	O	O
Regular Balloon	X	O	O

O = Compatible  
X = Non-compatible

# Side Branch Anchor Technique

Dr. Kambis Mashayekhi



**Universitäts-  
Herzzentrum  
Freiburg**

Bad Krozingen,  
Germany

1

## Case Background

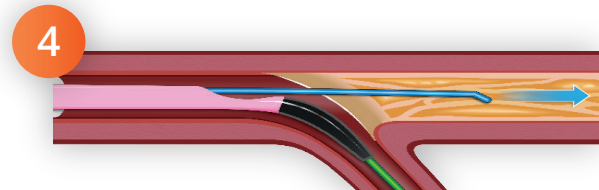
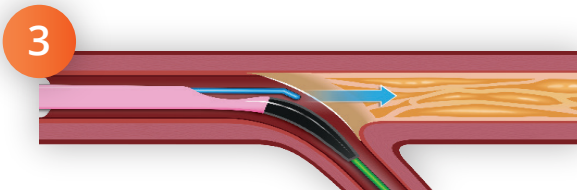
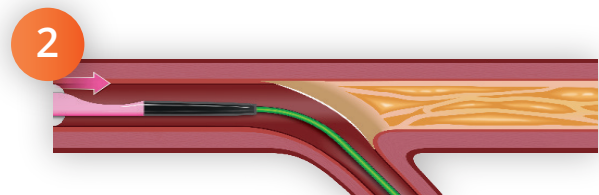
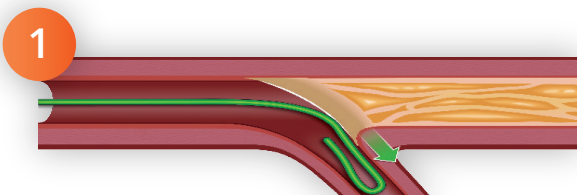
- Female, 72 years old
- Multi-vessel disease
- Second attempt
- Bending > 45°
- J-CTO score 5

2

## The Technique

Anchoring a non-traumatic guide wire with the use of a double lumen catheter such as ASAHI SASUKE in a non-occluded side branch can provide the necessary control to navigate the OTW-wire to the target vessel and the stability to penetrate the CTO.

This can be beneficial when the proximal CTO cap is at the bifurcation or when tortuosity of the target vessel has to be overcome to reach the CTO.

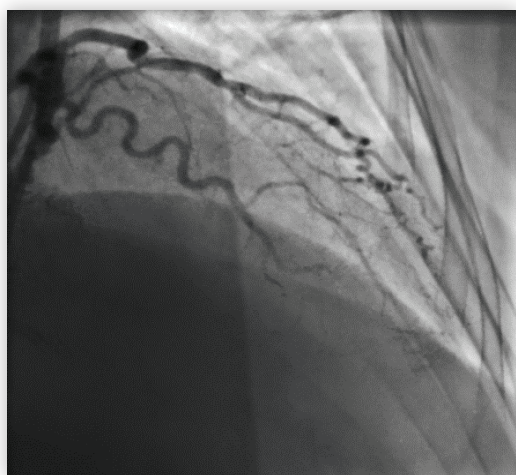




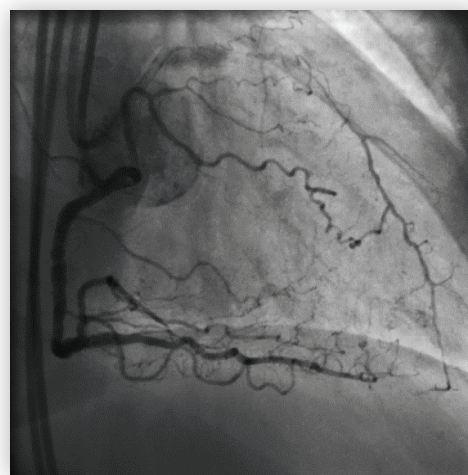
### 3 The Intervention

The patient was admitted for CTO PCI of his LAD artery. The ostial LAD was occluded with blunt stump at the distal left main with severe calcification and previously failed attempt. ASAHI SASUKE was advanced up to bifurcation and an ASAHI SION blue ES into the LCX. Supported by this, puncture of the proximal LAD was achieved into subintimal lumen with a ASAHI Confianza Pro 12 guide

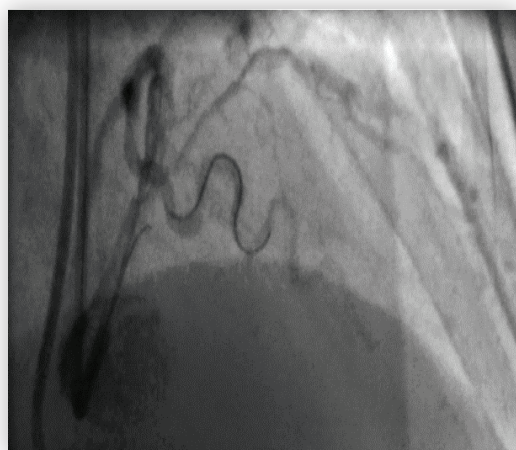
wire. ASAHI SASUKE was replaced by a ASAHI Corsair Pro microcatheter for further wire advancement and finally ended up in the subintimal space. The puncture into the true lumen was successfully performed with a ASAHI Gaia Third assisted by ASAHI SASUKE as parallel wire technique.



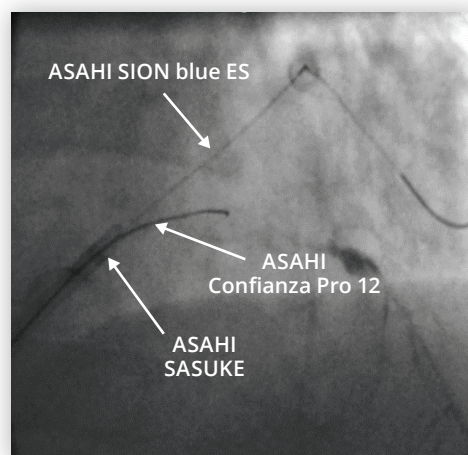
1. Set-up shot in RAO crainial.



2. J-CTO score 5.

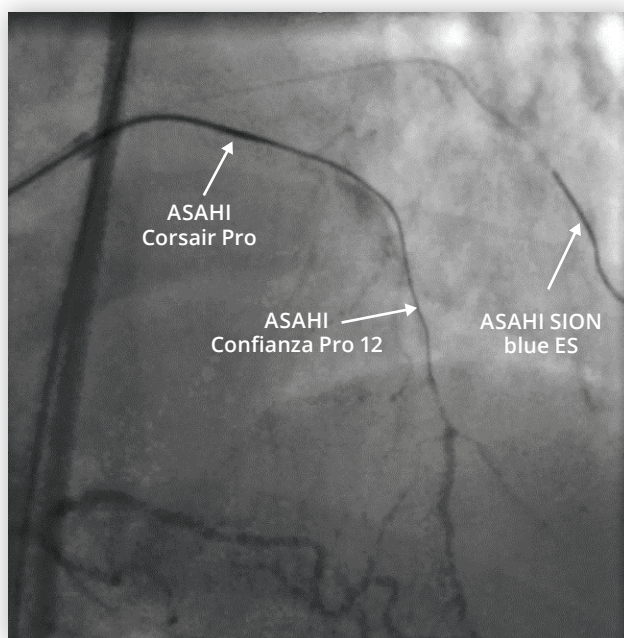


3. Double lumen MC for puncturing.

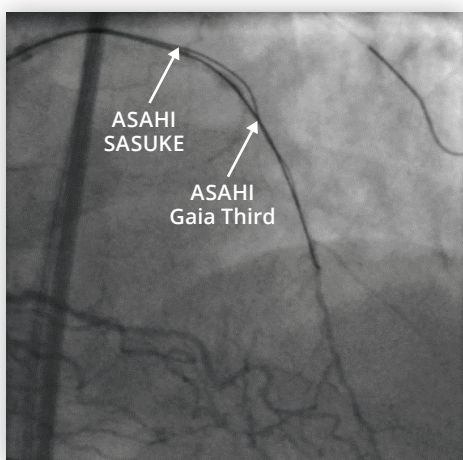


4. Puncturing with ASAHI Confianza Pro 12.

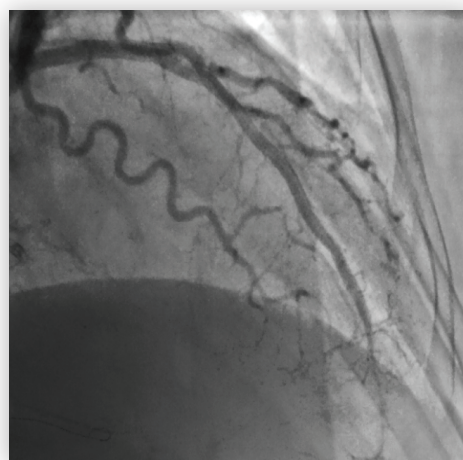
### 3 The Intervention *(continued)*



5. ASAHI Corsair Pro with ASAHI Confianza Pro 12.



6. ASAHI Gaia Third into true lumen.



7. Final result.

### 4 In Summary

Using the ASAHI SASUKE double lumen catheter provided more penetration force at the ostial blunt cap and provided a better

support and controllability during parallel wiring.



# ASAHI INTECC PTCA

## Guide Wires

Frontline



**ASAHI SION blue**  
Well Balanced Workhorse



TUBE CLIP

TIP LOAD



**ASAHI SION**  
Tracks Tortuous Vessels



**ASAHI SION black**  
Sliding Performance



**Fielder XT-R**  
Navigates Small Vessels  
and Tight Lesions



**Fielder XT-A**  
Penetrates Tapered  
Proximal Caps



**ULTIMATEbros 3**  
Controlled Drilling



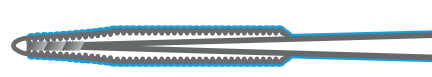
CTO



**ASAHI Gaia First**  
Torque and Tip Flexibility



**ASAHI Gaia Second**  
Torque and Tip Flexibility



**ASAHI Gaia Third**  
Torque and Tip Flexibility



**Confianza Pro**  
Conquest Pro  
**Confianza Pro 12**  
Conquest Pro 12  
Penetration Technique



Retrograde



**ASAHI SUOH 03**  
Crossability in Angulated  
and Tortuous Collaterals



**ASAHI RG3**  
Externalization



Support



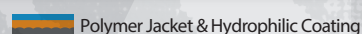
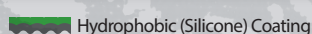
**ASAHI SION blue ES**  
Support



**Grand Slam**  
Support



Coatings Key:



Your dreams. Woven together.

**ASAHI INTECC**

# Side Branch Anchor Technique

Dr. Peep Laanmets



**North Estonia  
Medical Centre**

Tallinn, Estonia

1

## Case Background

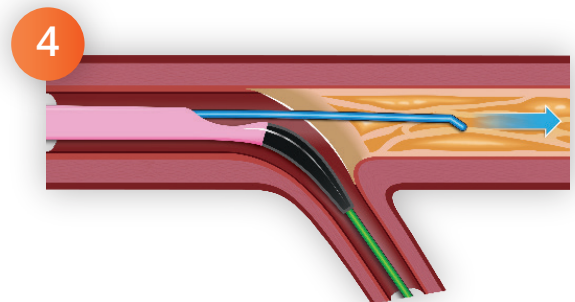
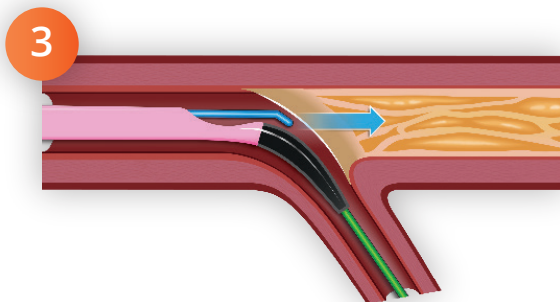
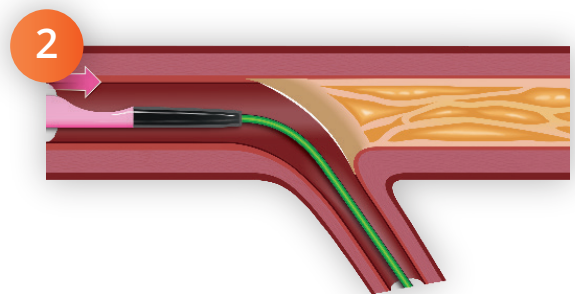
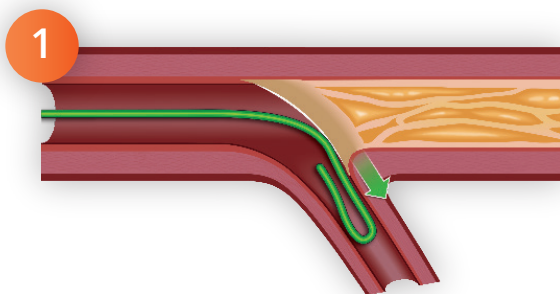
- Male, 65 years old
- Multi-vessel disease
- Second attempt
- Bending > 45°
- J-CTO score 3

2

## The Technique

Anchoring a non-traumatic guide wire with the use of a double lumen catheter such as ASAHI SASUKE in a non-occluded side branch can provide the necessary control to navigate the OTW-wire to the target vessel and the

stability to penetrate the CTO. This can be beneficial when the proximal CTO cap is at the bifurcation or when tortuosity of the target vessel has to be overcome to reach the CTO.

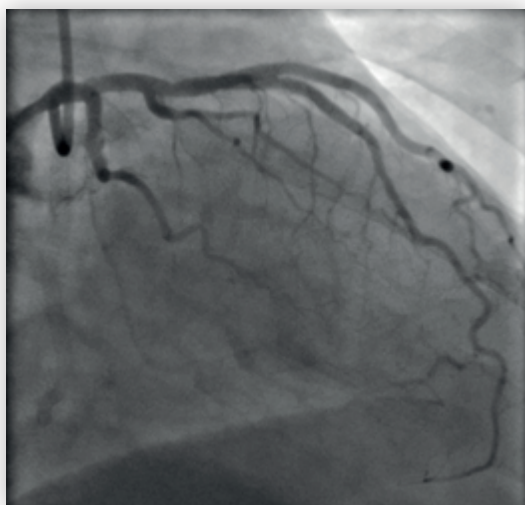




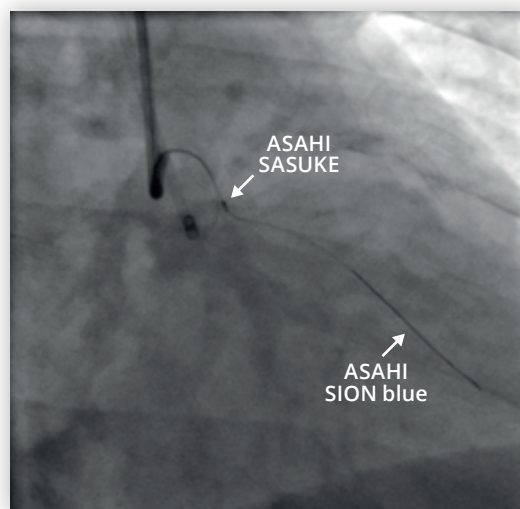
### 3 The Intervention

The patient was admitted for CTO PCI of his LCX artery and posterolateral branch. Both the (small) LCX and (large) posterolateral branch divaricated from the bifurcation with sharp angulation. ASAHI SASUKE was advanced into the OM branch over an ASAHI SION blue, after which sufficient support was achieved to direct a Fielder XT-A wire into the

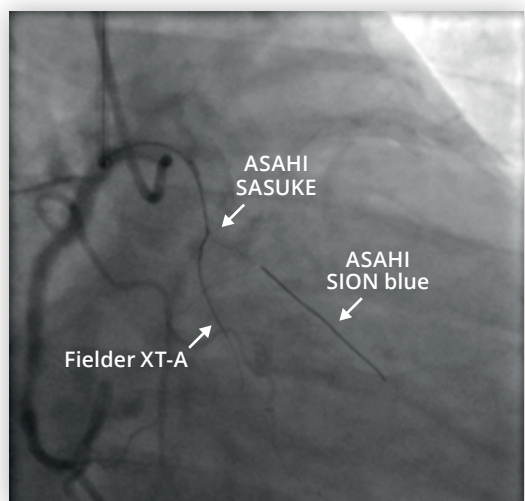
LCX and posterolateral branch. Subsequently both vessels could be recanalised with the Fielder XT-A. After pre-dilatation with a Mini-Trek OTW-balloon, the Fielder XT-A was exchanged for an ASAHI SION blue for safety and support, and the case could be finalised in an antegrade fashion.



1. Set-up shot in RAO Caudal.



2. ASAHI SASUKE inside OM over ASAHI SION blue.



3. Fielder XT-A from ASAHI SASUKE's side-port inside posterolateral.



4. End result.

### 4 In Summary

Using the ASAHI SASUKE double lumen catheter over an ASAHI SION blue guide wire provided the needed support to direct the

guide wire in the LCX and posterolateral branch which divaricated from the bifurcation with a sharp angle.

# Retrograde Anchor Technique

Dr. Colm Hanratty



**Royal Victoria  
Hospital**

Belfast,  
Northern Ireland

1

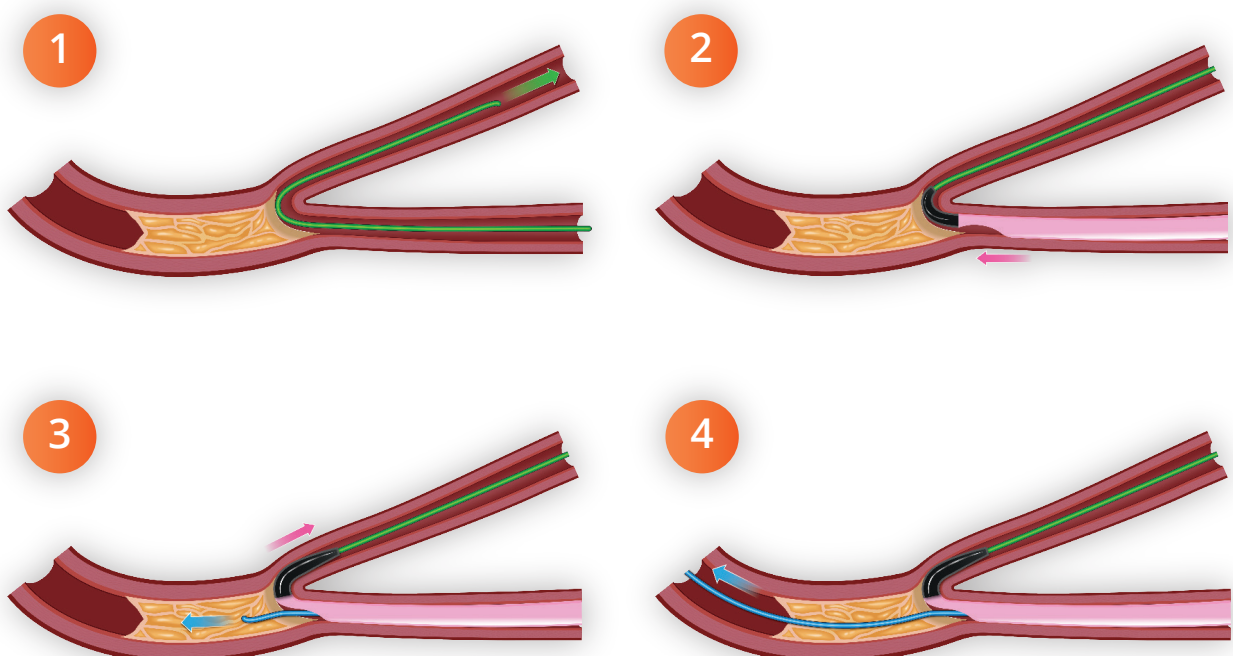
## Case Background

- Male, 70 years old
- Single-vessel disease
- RCA CTO since 2010
- >20mm
- JCTO Score 3

2

## The Technique

Anchoring a non-traumatic guide wire in a bifurcation retrogradely can give the necessary support to penetrate the distal cap of the CTO. Using a double lumen catheter such as ASAHI SASUKE, a second, stiffer, guide wire can be advanced via the OTW-lumen towards the distal CTO cap, which can be entered with optimal control and with the support of the double lumen catheter.



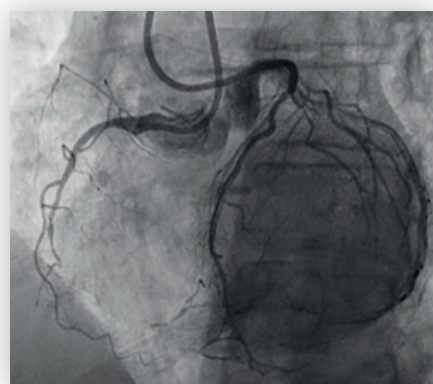


### 3 The Intervention

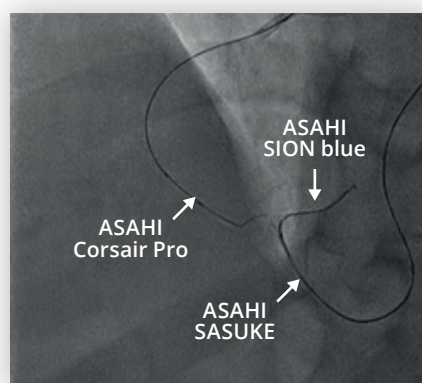
A patient with exertional angina and documented long occluded RCA (JCTO score 3) was admitted for PCI. Antegradely an ASAHI Corsair Pro was advanced into the CTO, after which a Fielder XT-A knuckle was used to cause plaque disruption. The antegrade system was supported by a 7Fr Guideliner.

Retrogradely, an ASAHI SION was used to selectively enter into a connecting septal collateral supported by an ASAHI Caravel. The wire was then changed to ASAHI SUOH 03 to cross the small and tortuous distal septal and advanced along the PDA towards the distal CTO cap which was a flush bifurcation occlusion.

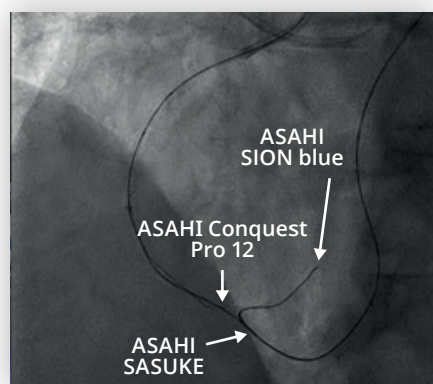
The ASAHI Caravel was delivered to the distal cap but the extreme angulation and blunt nature of the cap meant it was not possible to penetrate through into the distal RCA. The wire was changed to ASAHI SION blue which was placed in PL RCA, the ASAHI Caravel withdrawn and an ASAHI SASUKE was advanced retrogradely after dilating the septal with a 1.2mm Mini Trek balloon. Using a ASAHI Conquest Pro 12 from ASAHI SASUKE's side-port, the distal cap was punctured and the wire advanced into the CTO body and overlapped with the antegrade system. The ASAHI Conquest Pro 12 was jailed with an antegrade 2.5 mm compliant balloon within the CTO segment to remove the ASAHI SASUKE and exchange for ASAHI Caravel. The CTO body was wired with an ASAHI Gaia Third, into the antegrade Guideliner, and externalisation was achieved with ASAHI RG3. After predilation ASAHI SASUKE was advanced antegradely over the ASAHI RG3 to wire and secure the PL branch with a ASAHI SION blue, and the case was finished with kissing balloons in PDA/PLV before ballooning and stenting the RCA.



1.  
*Set-up shot in  
LAO Cranial.*



2.  
*ASAHI SASUKE  
over ASAHI  
SION blue  
from PDA to  
PLV.*



3.  
*ASAHI  
Conquest  
Pro 12 from  
OTW-exit  
port inside  
RCA.*



4.  
*Result after  
stenting.*

### 4 In Summary

The use of ASAHI SASUKE is beneficial retrogradely when entering the distal cap of the RCA CTO. Support was obtained by anchoring an ASAHI SION blue from the RX

lumen into the PL branch, and allowed penetration with ASAHI Conquest Pro 12 from the side port.

# Retrograde Anchor Technique

Dr. Dace Sondore



**P. Stradins  
University  
Hospital**

Riga, Latvia

1

## Case Background

- Male, 50 years old
- RCA CTO: J-CTO 4 (Blunt, >45)
- Second attempt
- Bending > 45°
- J-CTO score 5

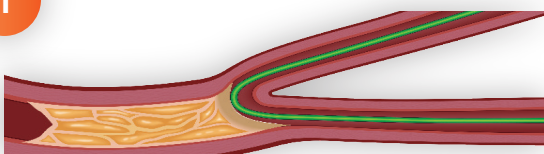
2

## The Technique

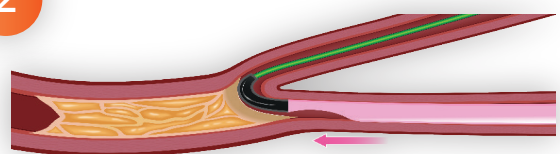
In case septal collaterals are not usable, wire an epicardial collateral followed by an ASAHI Caravel microcatheter first (for safety reason), remove the ASAHI Caravel and exchange it to an ASAHI SASUKE in the same style as you usually advance an ASAHI Caravel down. Fix the retrograde double lumen

catheter by placing it in the side branch with the RX wire, position the OTW lumen exit in front of the proximal cap by slightly turning. Then insert a second guide wire through the OTW lumen to increase penetration power and puncture the distal CTO cap.

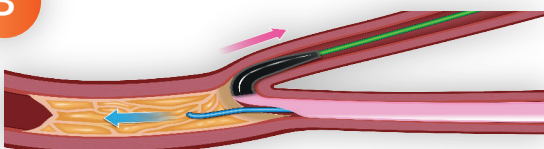
1



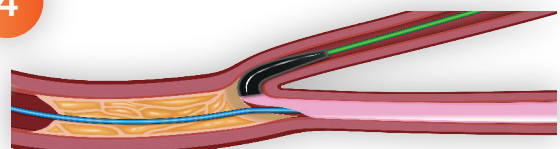
2



3



4



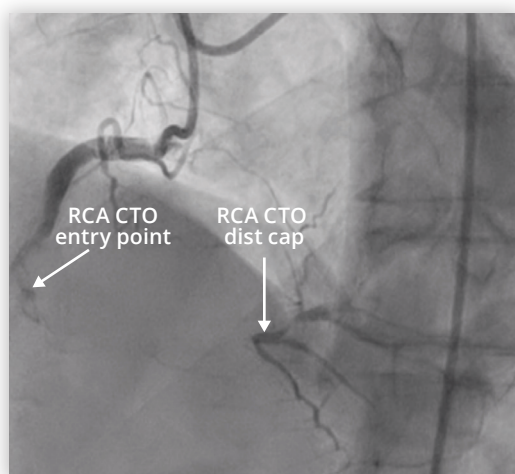


### 3 The Intervention

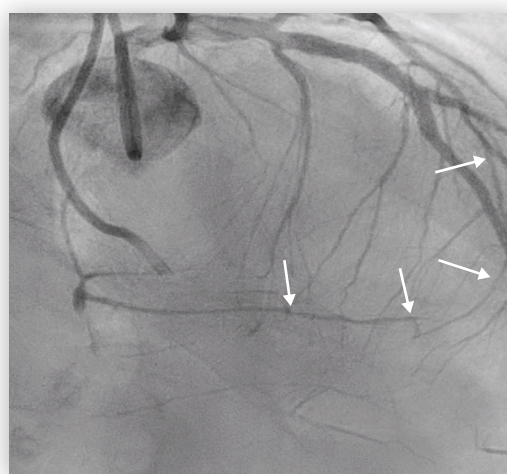
The right femoral and right radial arteries access were obtained using 7 Fr and 6 Fr sheaths respectively. A 6Fr EBU3.75 guide catheter was engaged in the left main coronary artery and a 7 Fr AR0.75 guide catheter was used for the right coronary artery (RCA). The angiogram showed a total occlusion of the mid RCA (Fig. 1), distal re-entry point was located at the bifurcation (even trifurcation) and was supplied by collaterals from the left side, septal branches and diagonal branch (Fig. 2). There were no possible ways to pass septal collaterals, so an ASAHI SUOH 03 wire was advanced with an ASAHI Caravel microcatheter into the epicardial collateral from the first diagonal to RPL branch. Tip injection was done to appreciate distal cap anatomy, then some attempts to puncture distal cap were done unsuccessfully with an ASAHI Conquest Pro 12 because of poor microcatheter support (Fig. 3). Therefore, an ASAHI SASUKE double lumen

catheter was advanced over the ASAHI Conquest Pro 12 wire and a second OTW wire (ASAHI Conquest Pro 12 as well) was advanced from the side port. For better visualization the first RX wire was removed a bit to see OTW lumen exit. (Fig. 4).

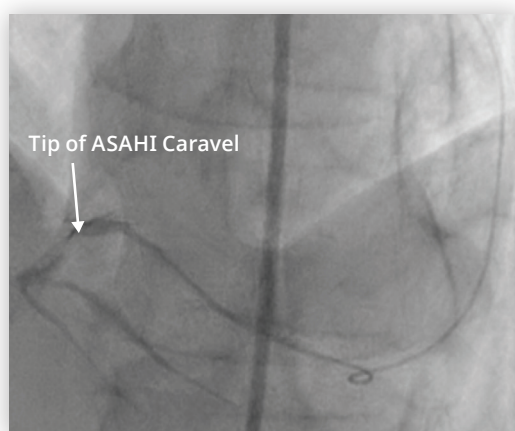
Finally, the second ASAHI Conquest Pro 12 wire was successfully passed towards the distal CTO cap and it went into subintimal space (Fig. 5). For the better antegrade guide support, GuideLiner 6 Fr was advanced, Reverse CART technique was done by 3.0-20mm SC balloon (Fig. 6). After successful Reverse CART, Tip-in was done in the antegrade ASAHI Corsair Pro, then it was advanced down to RPL and retrograde wire was removed and replaced by antegrade soft wire (Fig. 7). Retrograde wire and microcatheter were removed without the epicardial collateral damage. The final angiography showed acceptable result after DES implantation (Fig. 8).



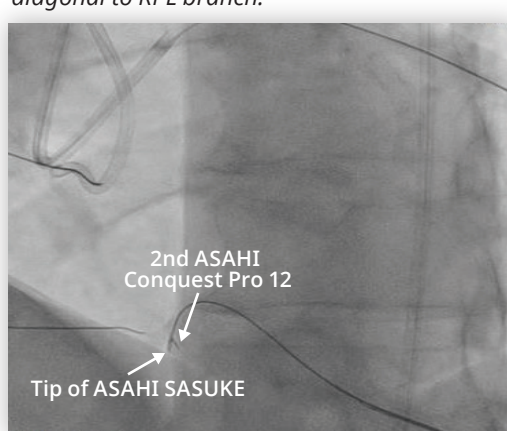
1. The mid RCA total occlusion.



2. The epicardial collateral from the first diagonal to RPL branch.

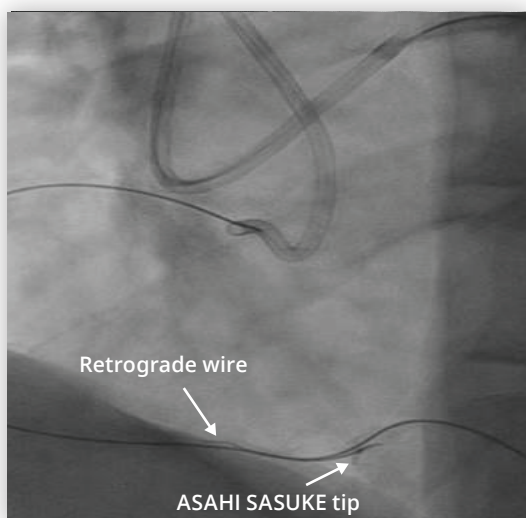


3. Tip injection through ASAHI Caravel microcatheter, followed by some failed attempts to puncture distal CTO cap with an ASAHI Conquest Pro 12.

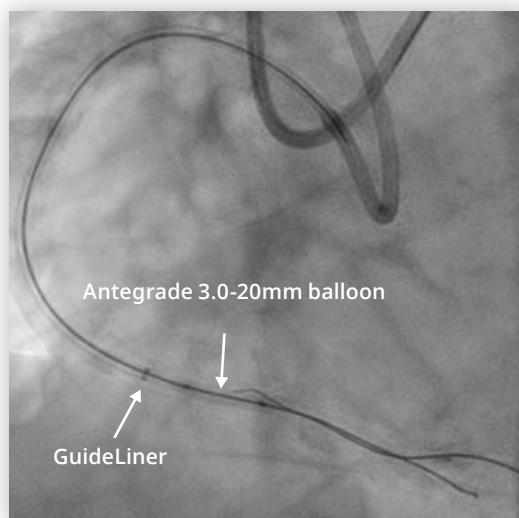


4. The first attempt to puncture distal CTO cap (wrong direction).

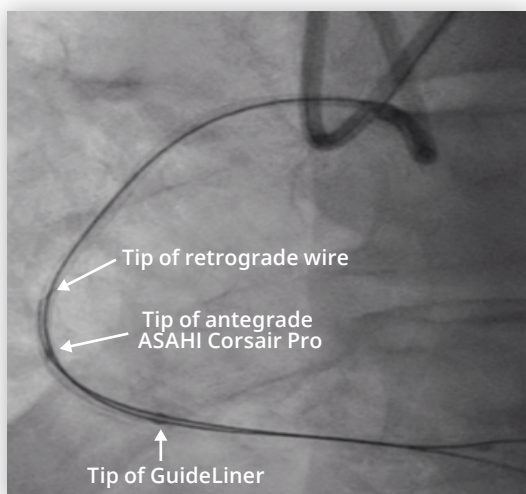
### 3 The Intervention *(continued)*



5. Retrograde successful CTO cap puncture.



6. Reverse CART technique.



7. Tip-in into antegrade ASAHI Corsair Pro.



8. Final angiography with epicardial collateral left in good condition (without complication).

### 4 In Summary

With two stiff wires inside the retrograde ASAHI SASUKE, the whole system stabilised and didn't slip away, the penetration power increased immediately. Thanks to that, it was possible to


perform successfully Reverse CART and connect both subintimal spaces without losing any of three big branches.



# CTO Guide Wire Selection

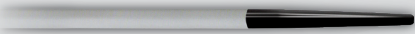
**Step 1:** Approach CTO with ASAHI Corsair Pro or Caravel and ASAHI SION blue wire

**ASAHI Corsair Pro**

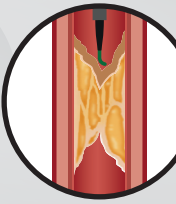


WORKING LENGTH 135cm 150cm	SHAFT O.D. Distal = 0.87mm (2.65f) Proximal = 0.93mm (2.85f)	SHAFT I.D. Distal = 0.38mm (0.015") Proximal = 0.45mm (0.018")	ENTRY PROFILE 0.42mm (0.016") / 1.35f
----------------------------------	--	--	--


**ASAHI Caravel**



WORKING LENGTH 135cm 150cm	SHAFT O.D. Distal = 0.62mm (1.95f) Proximal = 0.85mm (2.65f)	SHAFT I.D. Distal = 0.43mm (0.017") Proximal = 0.55mm (0.022")	ENTRY PROFILE 0.48mm (0.018") / 1.45f
----------------------------------	--	--	--



**ASAHI SION blue**




CORE SION TECC	COVER None	COATINGS Hydrophilic Hydrophobic Tip	WIRE O.D. 0.36mm (0.014")	TIP LOAD 0.5gf
-------------------	---------------	--	------------------------------	-------------------

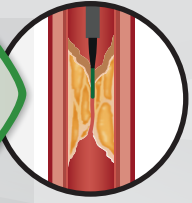
**Step 2:** Identify lesion type, then choose correct wire

**Controlled Channel Tracking**

**Fielder XT-R**




CORE SION TECC	COVER Polymer	COATINGS Hydrophilic	WIRE TIP 0.26mm (0.010")	TIP LOAD 0.6gf
-------------------	------------------	-------------------------	-----------------------------	-------------------

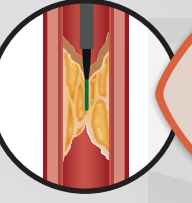


**Controlled Loose Tissue Tracking**

**Fielder XT-A**




CORE SION TECC	COVER Polymer	COATINGS Hydrophilic	WIRE TIP 0.26mm (0.010")	TIP LOAD 1.0gf
-------------------	------------------	-------------------------	-----------------------------	-------------------

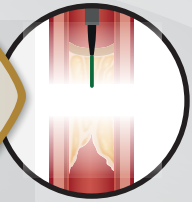


**Ambiguous CTO Drilling**

**ULTIMATEbros 3**




CORE Core to Tip	COVER None	COATINGS Hydrophilic Uncoated Tip	WIRE TIP 0.36mm (0.014")	TIP LOAD 3.0gf
---------------------	---------------	---	-----------------------------	-------------------

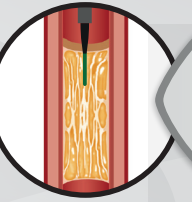


**Visible CTO Navigation**

**ASAHI Gaia First / Second**




CORE SION TECC	COVER None	COATINGS Hydrophilic Uncoated Tip	WIRE TIP 0.26mm (0.010") 0.28mm (0.011")	TIP LOAD 1.7gf / 1.25gf
-------------------	---------------	---	--	----------------------------

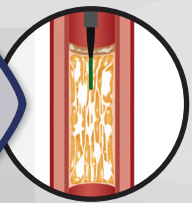


**Controlled Penetration**

**ASAHI Gaia Third**




CORE ACT ONE	COVER None	COATINGS Hydrophilic Uncoated Tip	WIRE TIP 0.30mm (0.012")	TIP LOAD 4.5gf
-----------------	---------------	---	-----------------------------	-------------------

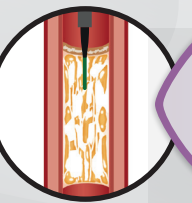


**Calcified Penetration**

**Conquest Pro / CONFIANZA PRO**




CORE Core to Tip	COVER None	COATINGS Hydrophilic Uncoated Tip	WIRE TIP 0.23mm (0.009")	TIP LOAD 9.0gf / 1.25gf
---------------------	---------------	---	-----------------------------	----------------------------



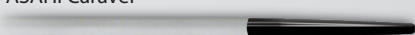
**Step 3:** Cross lesion with ASAHI Corsair Pro or Caravel and continue with ASAHI SION blue ES wire

**ASAHI Corsair Pro**

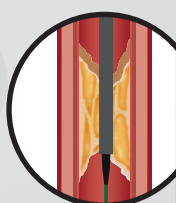


WORKING LENGTH 135cm 150cm	SHAFT O.D. Distal = 0.87mm (2.65f) Proximal = 0.93mm (2.85f)	SHAFT I.D. Distal = 0.38mm (0.015") Proximal = 0.45mm (0.018")	ENTRY PROFILE 0.42mm (0.016") / 1.35f
----------------------------------	--	--	--

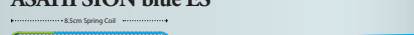
**ASAHI Caravel**






WORKING LENGTH 135cm 150cm	SHAFT O.D. Distal = 0.62mm (1.95f) Proximal = 0.85mm (2.65f)	SHAFT I.D. Distal = 0.43mm (0.017") Proximal = 0.55mm (0.022")	ENTRY PROFILE 0.48mm (0.018") / 1.45f
----------------------------------	--	--	--



**ASAHI SION blue ES**

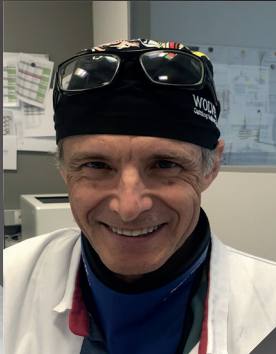


CORE SION TECC	COVER None	COATINGS Hydrophilic Hydrophobic Tip	WIRE O.D. 0.36mm (0.014")	TIP LOAD 0.5gf
-------------------	---------------	--	------------------------------	-------------------

Coatings Key:  Hydrophilic Coating  Hydrophobic (Silicone) Coating  Polymer Jacket & Hydrophilic Coating

# Reversed Retrograde Anchor Technique

Prof. Dr. Joseph Dens



**Ziekenhuis  
Oost-Limburg**

Genk, Belgium

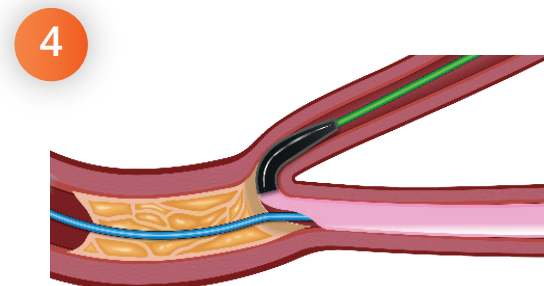
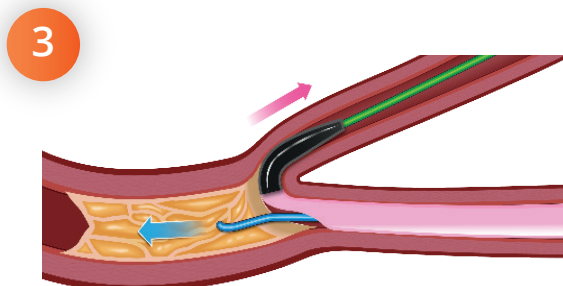
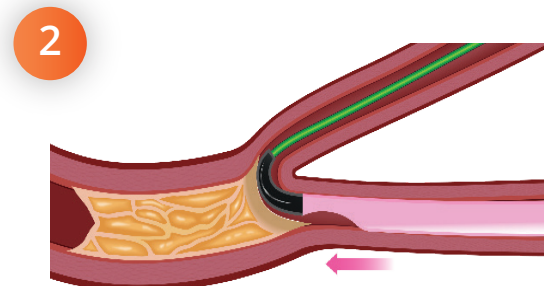
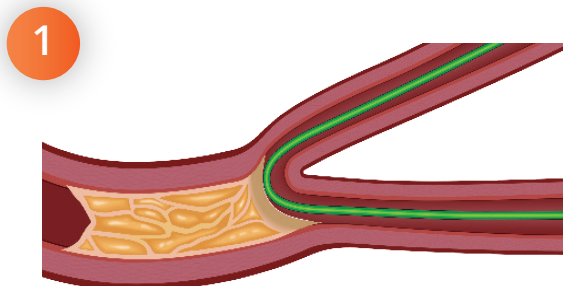
## 1 Case Background

- Male, 79 years old
- 2-vessel disease
- CTO mid RCA
- Severe stenosis D1 (70-90%)
- Stenosis proximal RCA (50%)

## 2 The Technique

The retrograde use of the ASAHI SASUKE in a bifurcation with the support of a regular wire via the RX lumen in the side branch and a second, stiffer, guide wire via the OTW lumen provides the necessary support to puncture the distal, blunt cap at the bifurcation (retrograde anchor technique).

In case puncturing through the OTW-lumen fails, puncturing should be tried via the RX-lumen of the ASAHI SASUKE (reversed retrograde anchor technique). In this reversed setting, the OTW guide wire is placed in the side branch and the RX guide wire is used to penetrate the distal cap of the CTO.



The pictures shown above is the Retrograde Anchor Technique



The patient was admitted for CTO PCI of the mid-RCA. There is only collateral flow coming from the LAD system. Antegradely, an ASAHI Corsair Pro was advanced up to the CTO, after which a Fielder XT-A was used to enter the proximal CTO cap. This wire entered in a subintimal position.

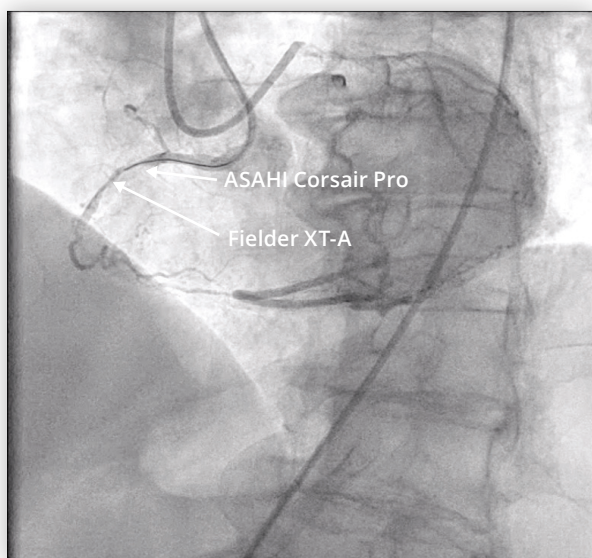
Retrogradely, an ASAHI SION was used to enter the large epicardial vessel supported by an ASAHI Caravel. Next, the wire was exchanged for an ASAHI SUOH 03 to cross the epicardial vessel and advanced along the PDA towards the distal CTO cap which was situated just proximal of the crux.

The ASAHI Caravel was then delivered also up to the distal CTO cap. Several attempts with the ASAHI Gaia Second, ASAHI Gaia Third, ASAHI Confianza Pro 12 and the BSC Hornet 14 failed to puncture the distal CTO cap, despite the support by the ASAHI Caravel. The wire was exchanged to ASAHI SION and placed in the PL RCA, after which the ASAHI Caravel was successfully exchanged for an ASAHI SASUKE. The tip of the ASAHI SASUKE was directed into the PL branch. The ASAHI SASUKE OTW-lumen was positioned toward the distal CTO cap.

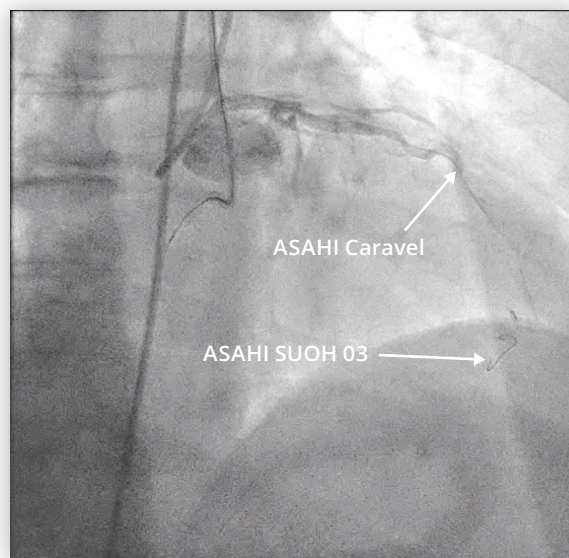
Despite several attempts with different

guide wires, no puncture could be made via the OTW lumen. To increase support, the decision was made to redirect the OTW lumen towards the PL branch and the tip of ASAHI SASUKE in the direction of the blunt bended distal cap. To do so, the ASAHI Gaia Third is redirected to the PL branch. Next the ASAHI SASUKE is trapped out. Then the ASAHI SASUKE is advanced over the trapped ASAHI Gaia Third via the RX-lumen. Once in place an ASAHI SION is advanced into the PL via the OTW-lumen. In this position, the ASAHI Gaia Third punctured the distal cap easily via the RX lumen. With both antegrade and retrograde wires in the sub-intimal space, a successful guideliner-assisted Reverse-CART was then performed after having exchanged the ASAHI SASUKE for the ASAHI Caravel. The retrograde ASAHI Caravel could easily cross the CTO and enter the guideliner.

After externalization using the ASAHI RG3, angioplasty was successfully finalized without any complications. In the mid-RCA occlusion 2 drug-eluting stents were implanted. Also 1 drug-eluting stent was implanted in the proximal RCA stenosis and in the first diagonal branch stenosis.



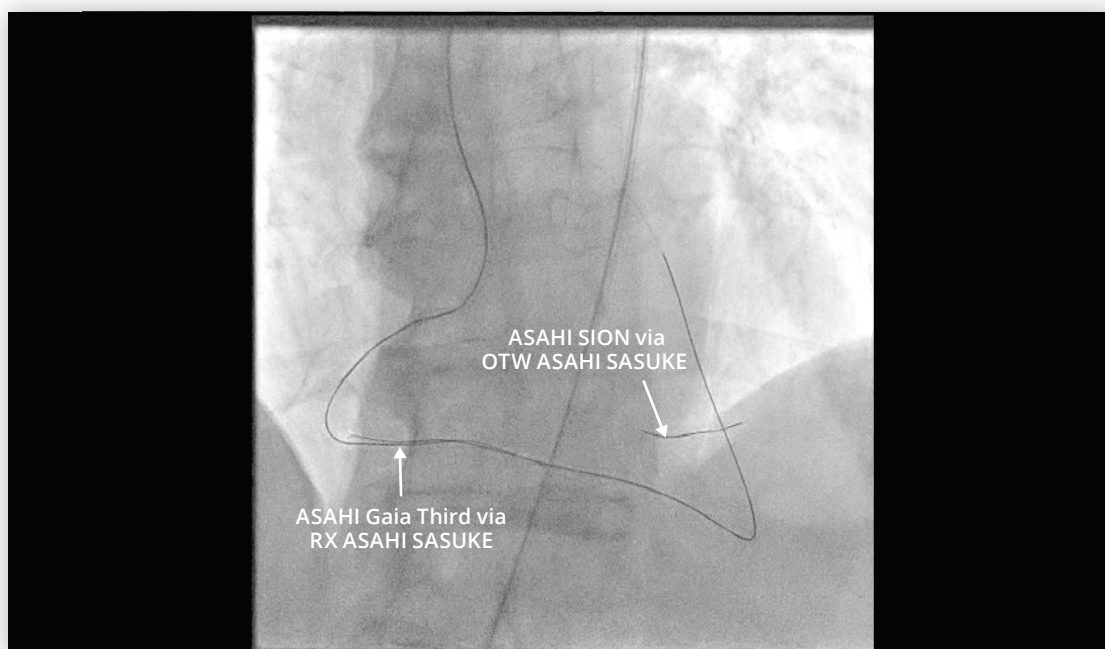
1. ASAHI Corsair Pro with Fielder XT-A.



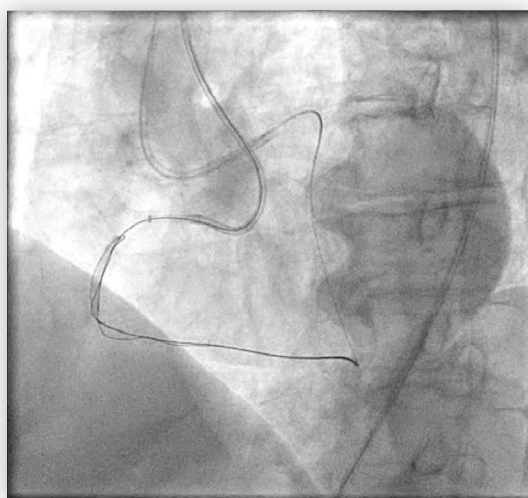
2. ASAHI Caravel with ASAHI SUOH 03.

### 3

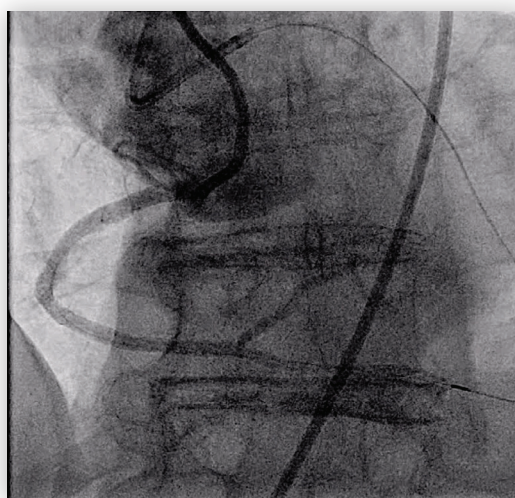
## The Intervention *(continued)*



3. ASAHI SION positioned into PL-vessel via OTW lumen of ASAHI SASUKE. ASAHI Gaia Third puncturing distal CTO cap via RX lumen (Retrograde Reverse-Anchoring Technique).



4. Guidliner-assisted Reverse CART.



5. Final result.

### 4

## In Summary

The use of the ASAHI SASUKE allows a puncture of a distal, blunt cap at a bifurcation via the OTW lumen and with the support of a regular wire via the RX lumen in a side branch.

In case puncturing through the

OTW-lumen fails, puncturing should be tried via the RX-lumen of the ASAHI SASUKE.



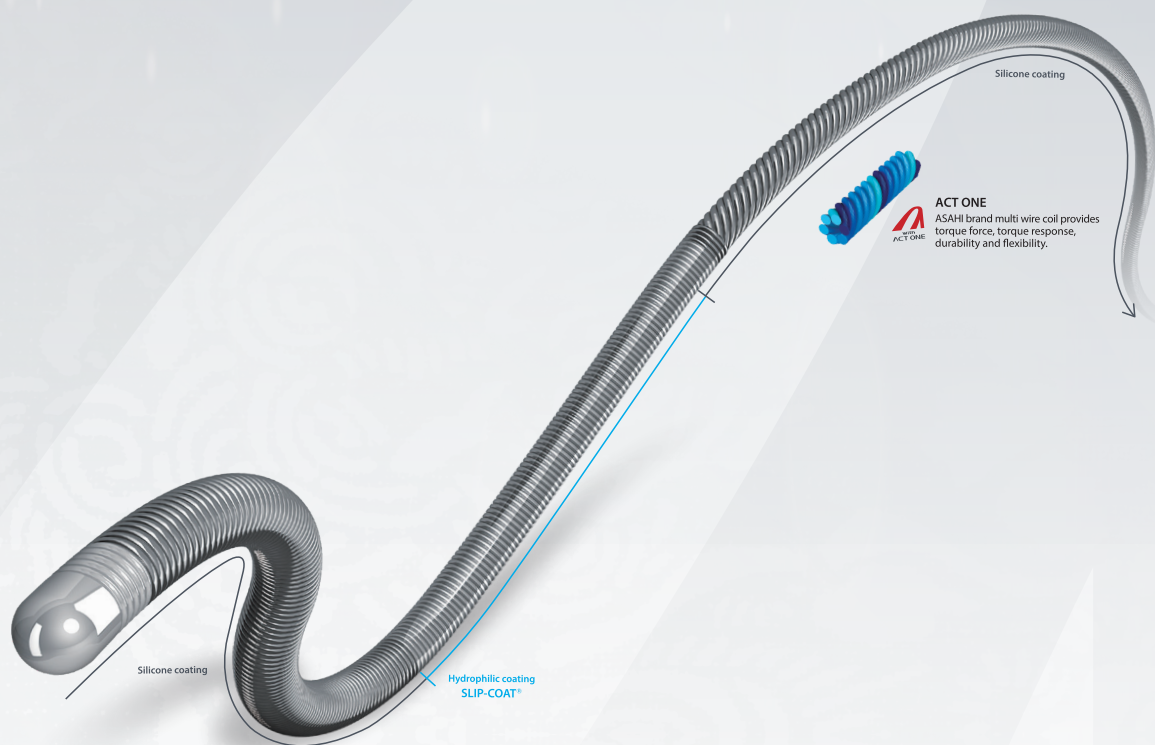
# ASAHI Silverway

Hydrophilic Coated Spring Coil Guide Wire

with **ACT ONE**

**Creating a New standard of Safe & Maneuverable Angiographic Guide Wire**

ASAHI's newly developed 0.89mm (0.035") spring coil guide wire  
with ACT ONE technology.



- **Double Coil Structure**
- **Hybrid Coating Design**
- **Hybrid Shaft Design with ACT ONE Technology**

# Protection of Side Branch

Prof. Dr. Joseph Dens



**Ziekenhuis  
Oost-Limburg**

Genk, Belgium

## 1

### Case Background

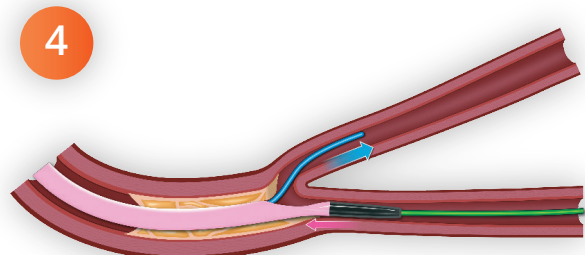
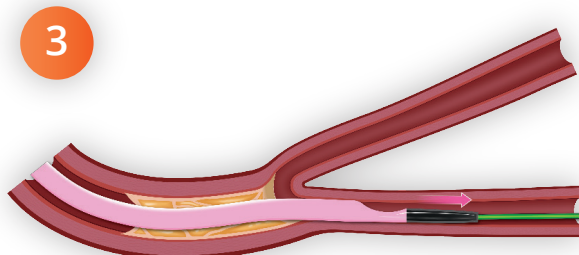
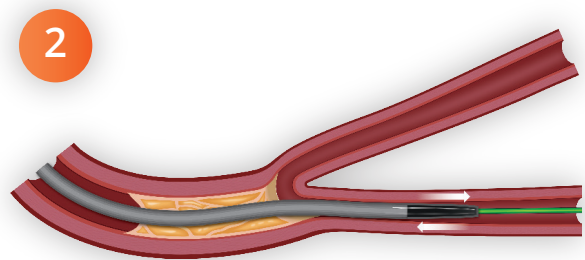
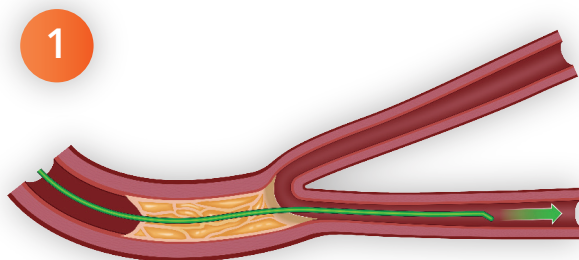
- Male, 68 years old, ex-smoker
- 2-vessel disease
- CTO Proximal LAD
- Severe stenosis mid-LAD (70-90%)
- Severe stenosis D1 (70-90%)

## 2

### The Technique

The protection of important side-branches is of clinical significance for the immediate and long-term outcome of patients, treated at a bifurcation. The use of a double lumen catheter such as the ASAHI SASUKE allows for the protection of important side-branches while utilizing the OTW wire to access desired targets to treat complex revascularization procedures and chronic total occlusions.

After successfully crossing a significant stenosis or occlusion that is located proximal to a bifurcation, it is important to access the main vessel while protecting the side-branch. Via the ASAHI SASUKE double lumen catheter, we can place a wire in a side branch for protection and support and to navigate the OTW wire to the desired target lesion.





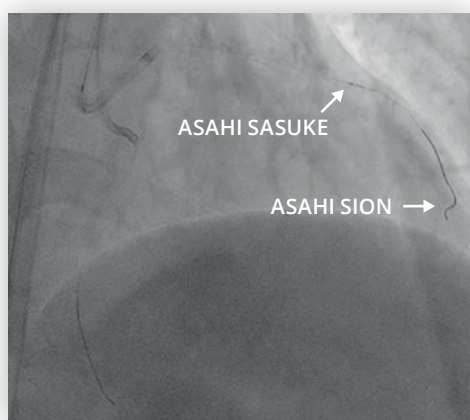
### 3 The Intervention

The patient was admitted for elective PCI of his CTO in the proximal LAD. An ASAHI Corsair Pro microcatheter was delivered to the proximal CTO cap over an ASAHI SION guide wire. The ASAHI SION was exchanged for an ULTIMATEBros 3 guide wire, which was subsequently used to cross the CTO and reached the first diagonal. After advancing the ASAHI Corsair Pro to the distal CTO cap, the ULTIMATEBros 3 positioned in the diagonal branch was then exchanged for an ASAHI SION guide wire for reasons of safety.

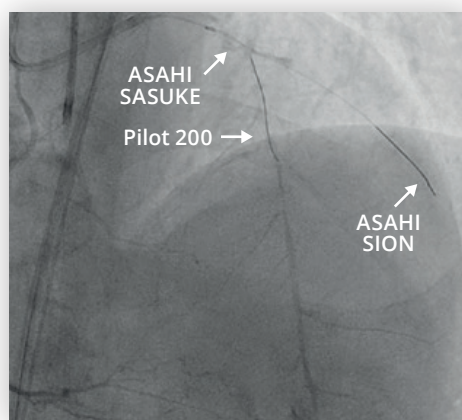
Next, via the RX-lumen, the ASAHI SASUKE was advanced over the ASAHI SION

guide wire up to the distal cap, after pre-dilatation using a Sapphire 1.5x15mm balloon.

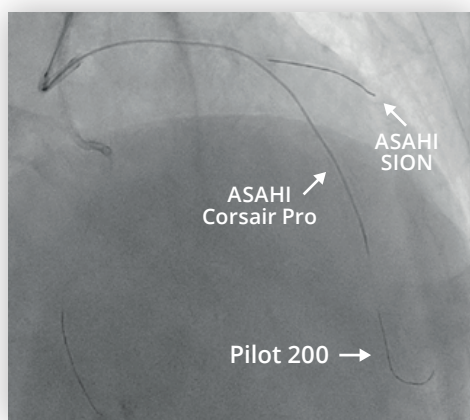
Using the OTW-lumen of the ASAHI SASUKE, a HI-TORQUE PILOT 200 guide wire could successfully cross the mid-LAD lesion. Subsequently, the ASAHI SASUKE was exchanged for a ASAHI Corsair Pro microcatheter. TIMI 3 flow was achieved by implantation of a Synergy 2.5 x 48mm in the mid-LAD, a Synergy 3.0 x 48mm in the proximal LAD and a Synergy 2.5 x 24mm in the first diagonal (mini-crush technique).



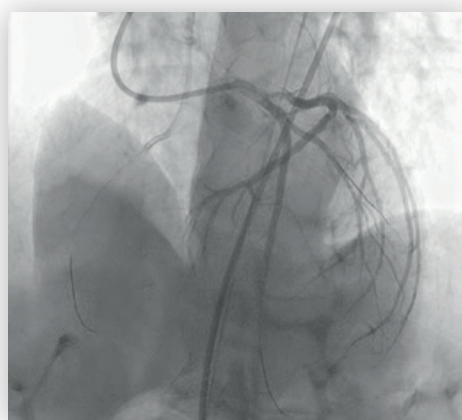
1. ASAHI SASUKE over ASAHI SION guide wire in D1.



2. HI-TORQUE PILOT 200 in LAD via OTW-exit port.



3. ASAHI Corsair Pro microcatheter over HI-TORQUE PILOT 200 in LAD.



4. End result.

### 4 In Summary

When the distal cap of the CTO ends at a bifurcation, the double lumen catheter allows wiring of both branches.

Wiring both branches before stenting the main vessel is important to avoid side branch loss.

## Distal main vessel pick-up via ASAHI SASUKE over an externalized ASAHI RG3

### Prof. Dr. Joseph Dens



**Ziekenhuis  
Oost-Limburg**

Genk, Belgium

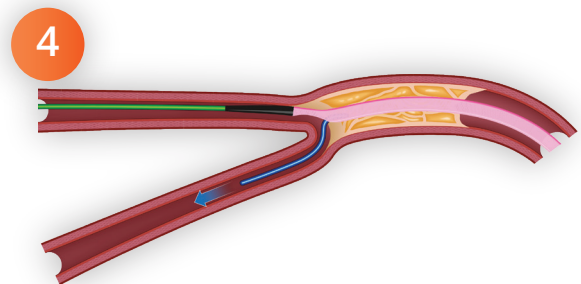
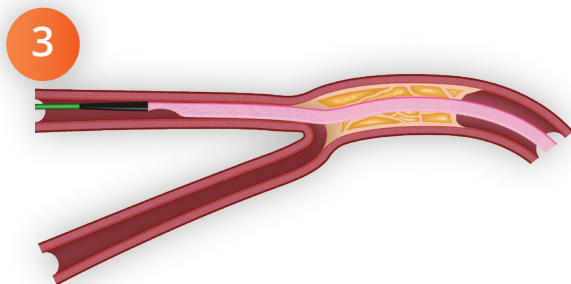
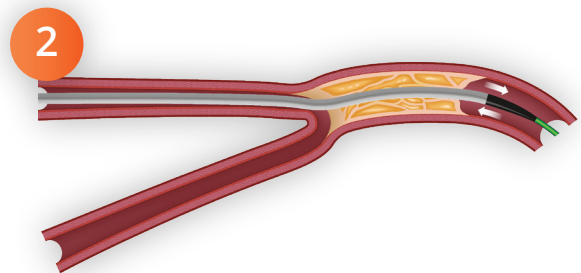
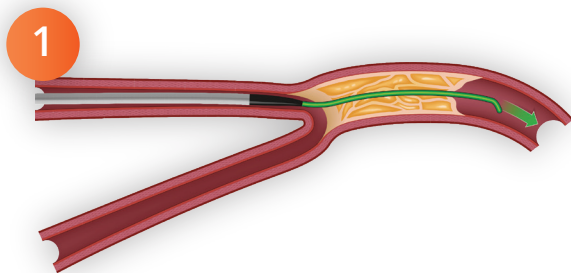
### 1 Case Background

- Male, 61 years old
- Hypertension, obesitas, diabetes (treated per os)
- Hypercholesterolemia
- Presented with stable angina
- 2-vessel disease: CTO mid-LAD
- 50-70% stenosis mid-CX

### 2 The Technique

After performing a standard externalization procedure, in case the distal part of the main vessel requires a treatment, the use of ASAHI SASUKE over the

externalized ASAHI RG3 via the RX lumen antegradely allows for an easy wiring of the distal main branch via the OTW lumen.





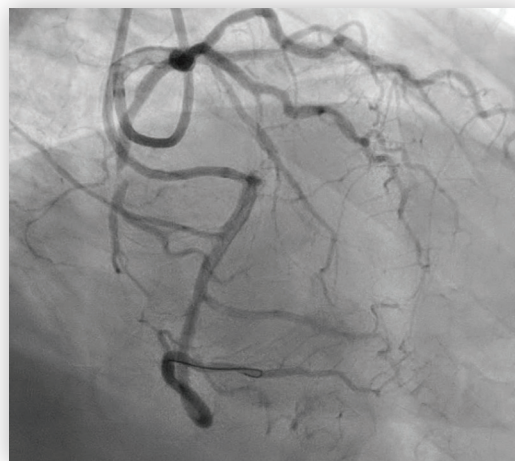
The patient was admitted for CTO PCI of the mid-LAD. Due to the unfavorable proximal cap, the decision was made to attempt retrograde wire escalation via the septal collaterals. After identifying a suitable septal collateral connection by performing a microcatheter tip injection in the distal RCA, this septal connection could be successfully tracked using an ASAHI SION black and a BSC microcatheter. To increase support in doing so, a BSC Guide catheter was used.

Upon reaching the distal CTO cap with both guide wire and microcatheter, the ASAHI SION black was exchanged for an ASAHI Gaia Second. Using this wire, the CTO was successfully crossed retrogradely. The BSC microcatheter could also successfully follow through the CTO and subsequently enter the antegrade guiding catheter. With the microcatheter positioned in the antegrade guiding, a standard externalization procedure was performed by exchanging the ASAHI Gaia Second for an ASAHI RG3 guide wire. Next, the CTO lesion was successfully pre-dilated. In order to treat also the distal part of the LAD, an ASAHI SASUKE double lumen catheter was advanced over the externalized ASAHI RG3 guide wire via the RX-lumen. With the ASAHI

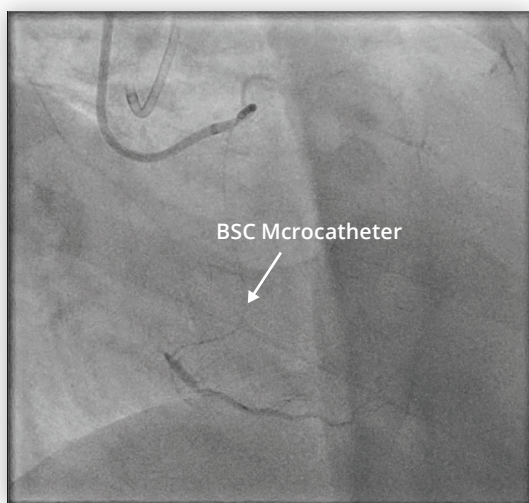
SASUKE positioned just distal of the CTO lesion, the side-port i.e. OTW-lumen of the ASAHI SASUKE was used to advance an ASAHI SION black and wire the distal LAD successfully.

With a complete antegrade system available, the retrograde material was removed and angioplasty could be successfully finalized without any complications.

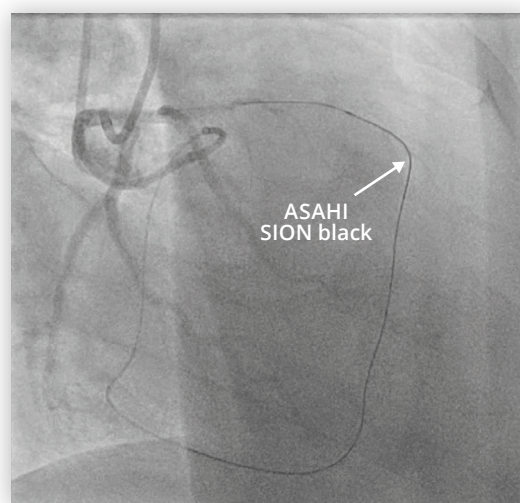
In total, two drug-eluting stents were implanted, an Orsiro 2.25x40mm in the mid-LAD and a Synergy 3.0x32mm in the proximal part. Subsequent to the LAD recanalization, PCI was also performed in the CX by implanting a Synergy 2.25x20mm.



1. Diagnostic angiography showing the mid-LAD occlusion and available septal connections.

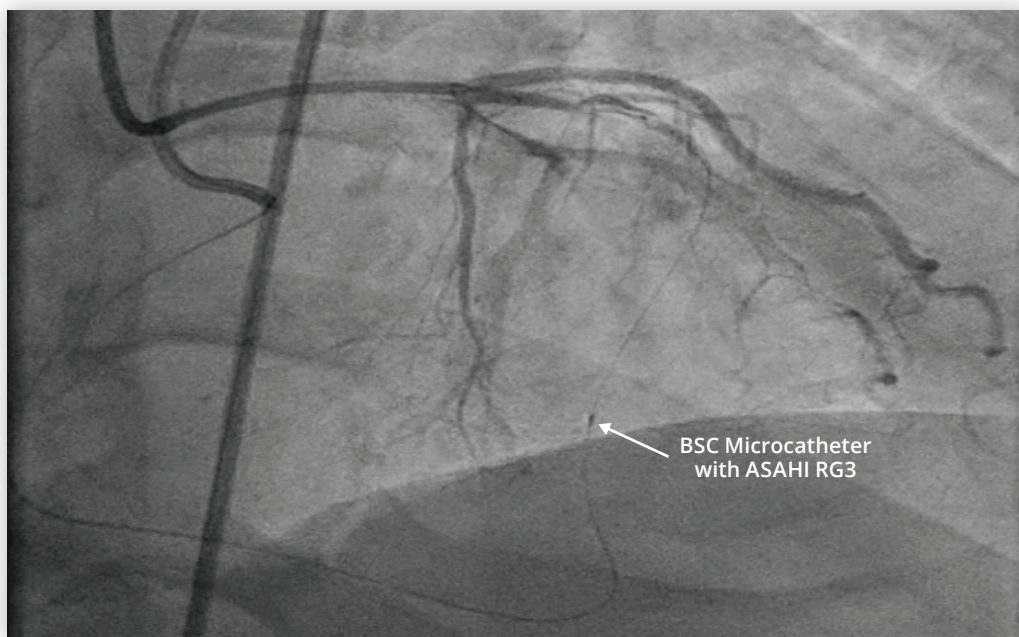


2. Microinjection in the distal RCA via the BSC Microcatheter.

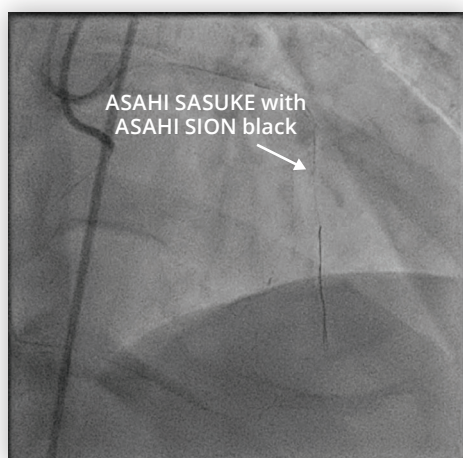


3. Crossing of septal collateral and mid-LAD CTO lesion using ASAHI SION black guide wire.

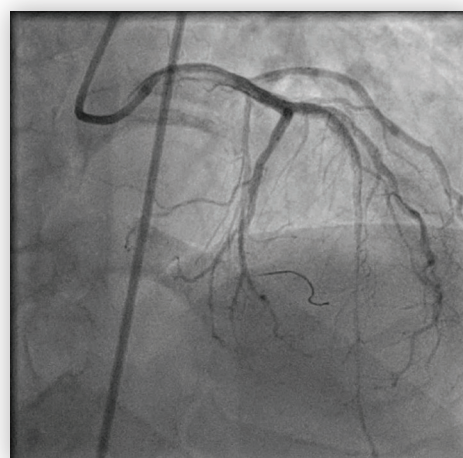
### 3 The Intervention *(continued)*



4. Pre-dilatation of mid-LAD CTO lesion, after retraction of retrograde microcatheter into septal collateral.



5. Antegrade wiring of distal LAD with the ASAHI SION black via the OTW-lumen of the ASAHI SASUKE.



6. Final result after angioplasty.

### 4 In Summary

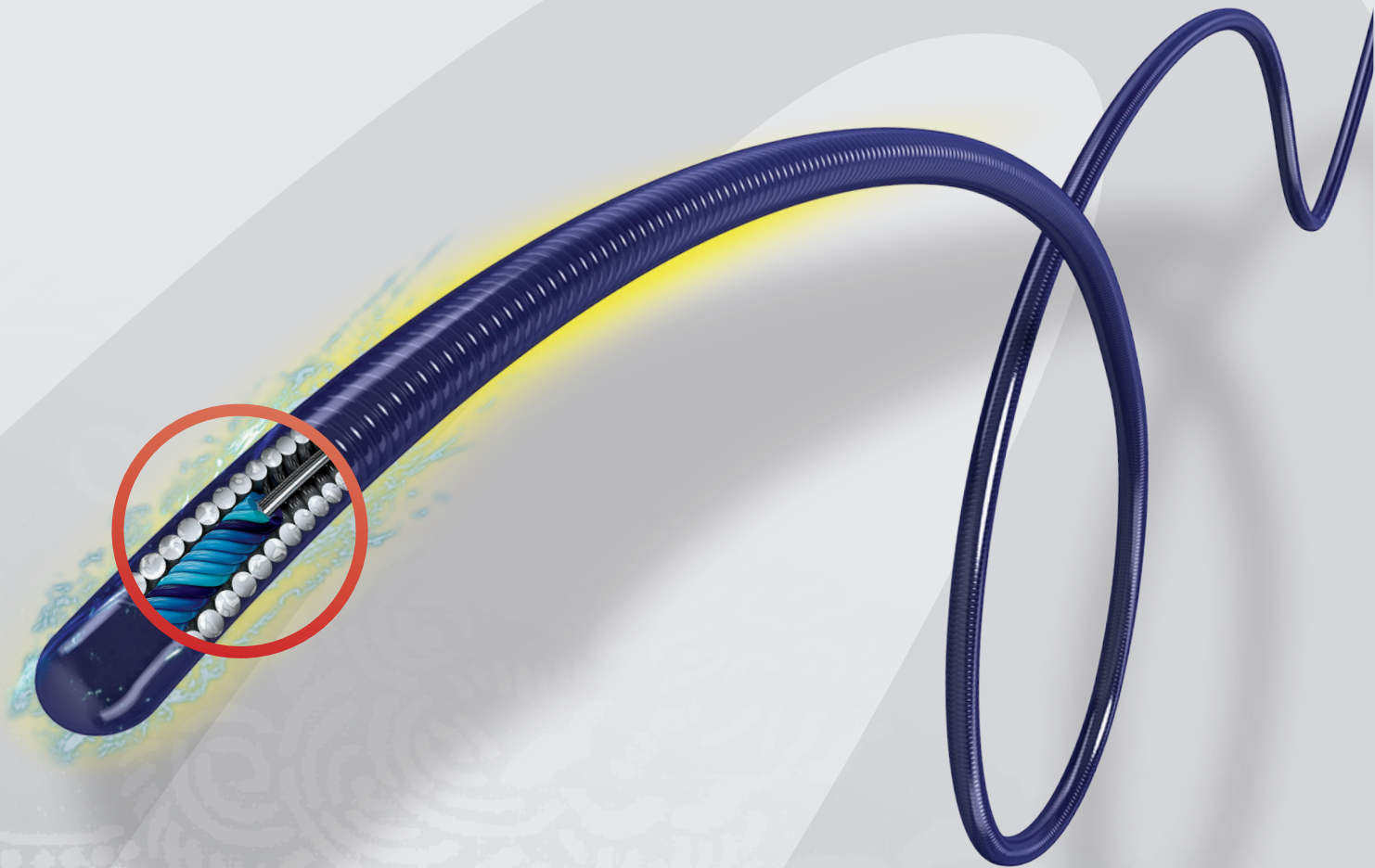
The antegrade use of the ASAHI SASUKE over a highly supportive, externalized ASAHI RG3 guide wire via the RX-lumen, allows for an easy

wiring of the distal main branch via the OTW lumen.



# ASAHI Gladius EX

**Middleweight Non-Tapered Long Polymer Jacket Guide Wire**



- **Mini Pre-Shape**
- **High Lubricity**
- **1-to-1 Torque with ACT ONE Technology**

# Slip Stream Technique - IVUS & ASAHI SASUKE

Dr. José Ramón Rumoroso



**Hospital  
Universitario**

Galdakao,  
Spain

1

## Case Background

- Male, 66 years old
- Second attempt of a RCA CTO
- Blunt stump with a side branch, moderate calcification, ipsilateral and contralateral collaterals with a severe disease at the distal landing zone
- J-CTO score 4

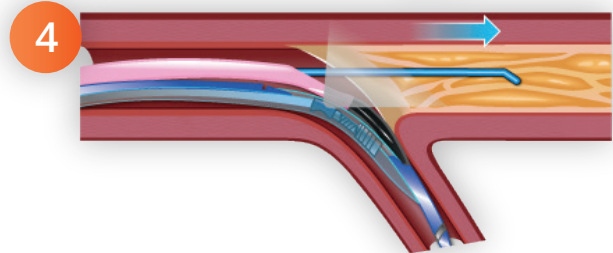
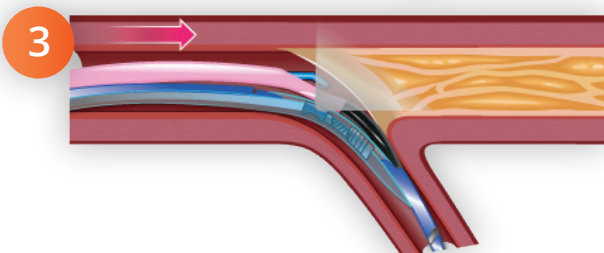
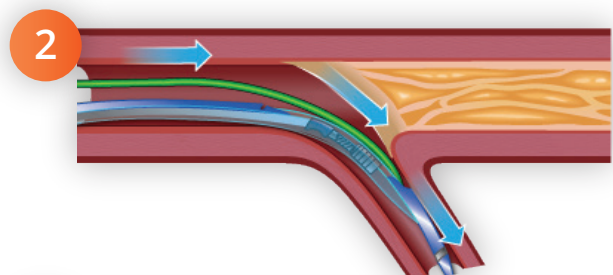
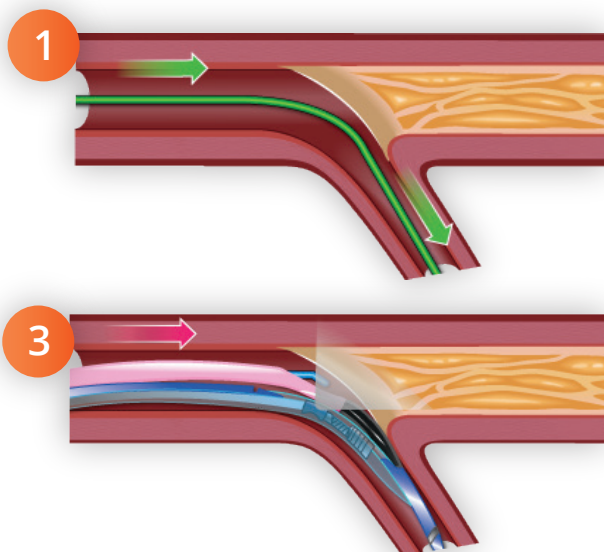
2

## The Technique

The slip stream technique is a novel wiring technique where an IVUS catheter and the ASAHI SASUKE double lumen catheter are sliding over one and the same guide wire. It is an elegant strategy for crossing CTOs at a side branch. The guide wire positioned in the target side branch is used to deliver first the IVUS catheter, subsequently the ASAHI SASUKE is delivered by inserting the same guide wire in the RX lumen of the ASAHI SASUKE. As a result, the ASAHI SASUKE can be positioned just behind the IVUS catheter in situ.

The OTW lumen of the ASAHI SASUKE is then used to deliver the desired crossing wire to cross the CTO. This configuration will provide an Image Guided Entry (IGE) of the CTO.

Using this technique, the interventionist can utilize the benefits of image guidance together with the increased support and control of the crossing wire provided by the ASAHI SASUKE. The short tip shape of ASAHI SASUKE makes it the perfect Slip Stream partner as the exit port for the crossing wire is located close to the IVUS transducer.





### 3

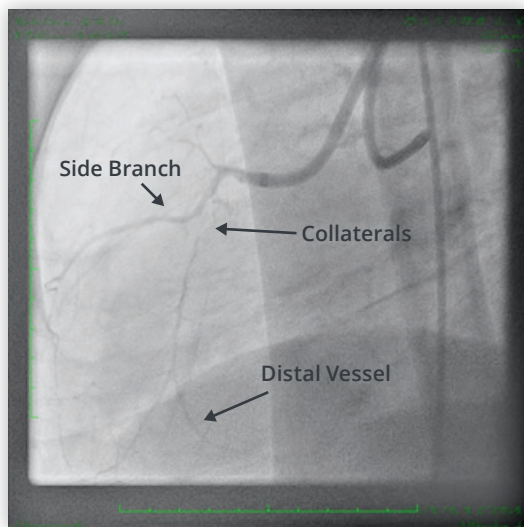
## The Intervention

When there is a side branch arising from the CTO it is very difficult to know where the entry point is. Also, we have difficulties in allocating a single lumen microcatheter at the entry point because the microcatheter and the guide wire usually prolapse into the side branch.

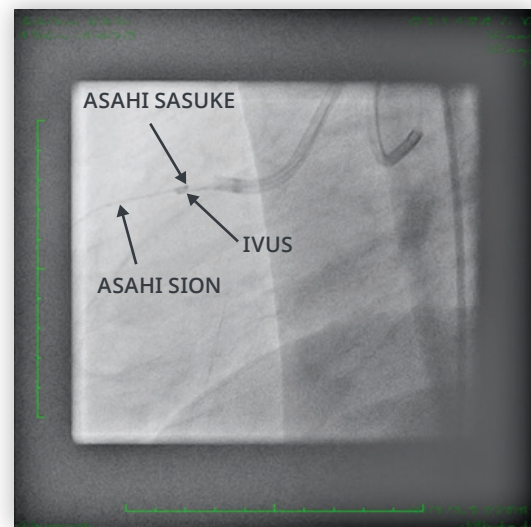
A double lumen catheter like the ASAHI SASUKE allow us to find the entry point with a stiffer wire. This entry point is easily seen with an IVUS. With a Slip stream technique we can put in the side branch an IVUS and an ASAHI SASUKE on the same wire.

First, we go with a wire (ASAHI SION) in the side branch (SB), we advance the mechanical IVUS system (Opticross HD, BSC) through this wire and then we go with the ASAHI SASUKE over the same wire, two systems over one wire.

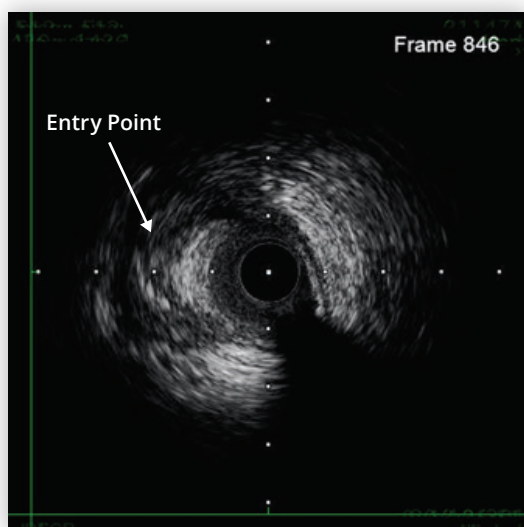
We can move the IVUS to see the entry-point (arrow, fig 2A, 7 o'clock - 11 o'clock) and then we move the ASAHI SASUKE to that point, facing it with the lateral exit port. It is important to choose a torqueable wire, in this case the wire is ASAHI Gaia Second.



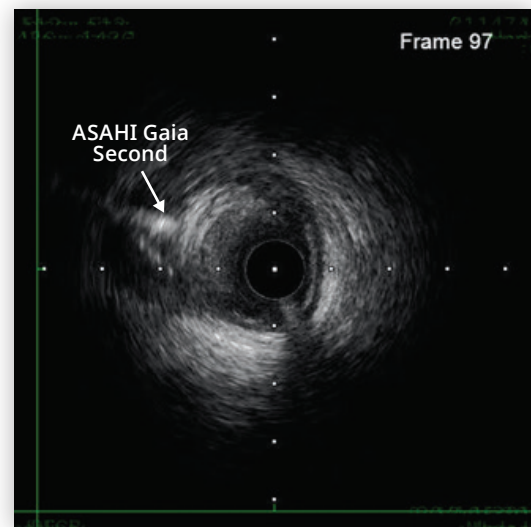
1A. Setup angio.



1B. Setup placement.



2A. We can see the wire facing the occlusion.

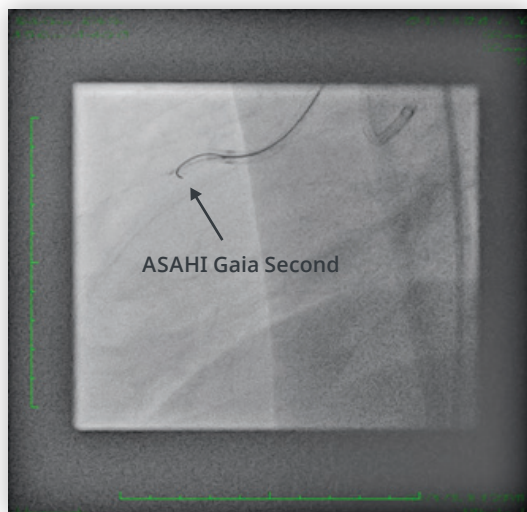


2B. ASAHI Gaia Second facing stump (arrow).

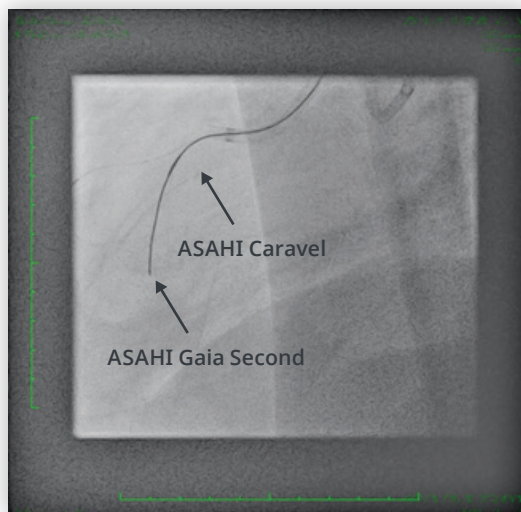
### 3 The Intervention *(continued)*

Now we are sure that we are inside the CTO, we exchange the ASAHI SASUKE with a Caravel in order to advance the ASAHI Gaia Second inside the CTO moving it with deflection control technique to enter in the

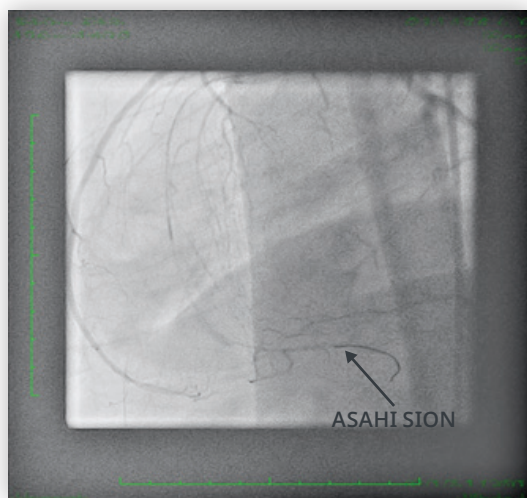
distal vessel. We reach the distal vessel, exchange the ASAHI Gaia wire with a ASAHI SION and check it with contralateral injection. Finally, we dilated the whole RCA and deployed two stents with this result (fig 6).



3. ASAHI Gaia Second entering.



4. ASAHI SION in side branch, ASAHI Caravel with ASAHI Gaia Second.



5. ASAHI SION in distal vessel (arrow).



6. Final result.

### 4 In Summary

The ASAHI SASUKE is very useful in CTOs when there is a blunt stump and a side branch. It allows us to perform the Slip stream technique

with the IVUS, providing an accurate control with a higher penetration force in the wire that exits the lateral port of the microcatheter.



# **ASAHI** **Corsair Pro XS** *Microcatheter*

**Simplify Retrograde Complexity**



- **LOW PROFILE**
  - **1.3 Fr** Tip Profile
  - **2.1 Fr** Crossing Profile
- **Flexible and Trackable**
- **10X Torquable Shaft**

# ASAHI SASUKE Multi-Use Techniques

Dr. Yoshihisa Kinoshita



**Toyohashi  
Heart Center**

Toyohashi,  
Japan

## 1 Case Background

- Male, 62 years old
- Distal RCA
- Stable angina
- Hypertension, dyslipidemia
- J-CTO Score 1

## 2 The Techniques

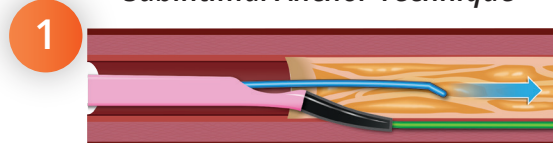
**Subintimal Anchor Technique:** When the first guide wire enters the subintimal plane attempting to cross the CTO, a second guide wire can be used in parallel for the intentional intraplaque crossing of the CTO. The first guide wire is left in the subintimal plane and acts as a landmark for guiding the second wire intraplaque. With ASAHI SASUKE double lumen catheter, the subintimal located guide wire can be placed in the RX lumen to have the required increased support and control for wiring the CTO with the second guide wire that is placed in the OTW lumen.

**Selective Injection:** Selective injection of contrast media through the OTW lumen of a ASAHI SASUKE helps to visualize the target vessel for subsequent wiring. Using a ASAHI SASUKE to selectively deliver contrast media is also an effective strategy to limit the contrast volume patients are exposed to.

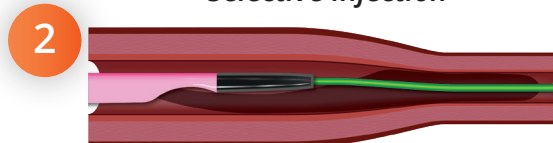
**Reverse Wire:** To facilitate wiring of highly angulated side branches, place the first guide wire in the main vessel to deliver a ASAHI SASUKE using the RX lumen. A reversely shaped second guide wire (refer to figure 3) is placed in the OTW-port of the ASAHI SASUKE. The OTW-guide wire and the ASAHI SASUKE are

delivered distally beyond the bifurcation. While the second guide wire is sticking out of the OTW-port and is folded backwards, its wire tip is directed to the target ostium. Pulling the ASAHI SASUKE back helps the OTW-guide wire to engage into the target side branch. Subsequently, pull back the OTW-guide wire to advance into the target side branch.

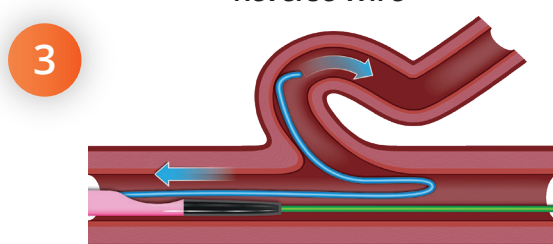
### *Subintimal Anchor Technique*



### *Selective Injection*



### *Reverse Wire*





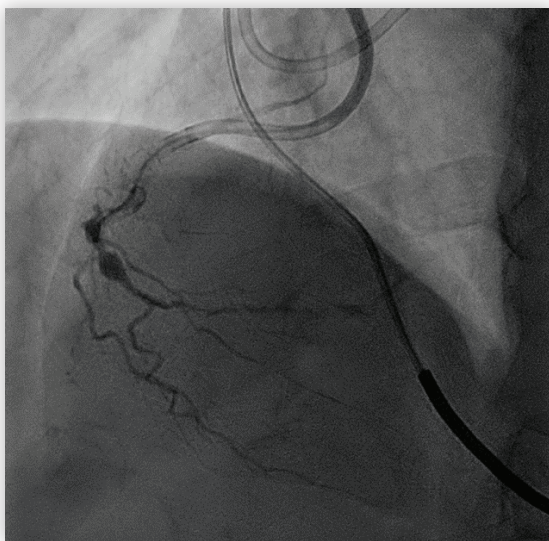
### 3 The Intervention

The patient was admitted for PCI of the distal RCA occlusion (Figure 1). ASAHI Caravel microcatheter and Fielder XT-A guide wire were used antegradely to cross the CTO segment. Since the guide wire went into the subintimal plane and crossed to distal true lumen of PD branch (Figure 2), I left the guide wire in the subintimal plane and advanced the ASAHI SASUKE.

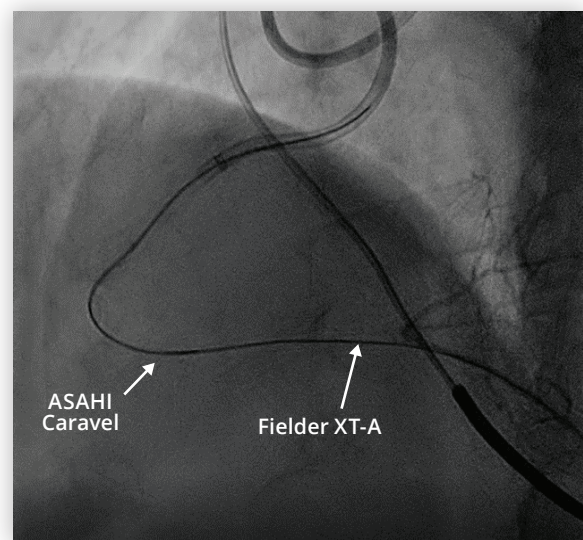
I advanced ASAHI Gaia First as the second wire through OTW-port of ASAHI

SASUKE and proceeded with parallel wire technique (Figure 3), and the ASAHI Gaia First successfully crossed into the true lumen to distal PD branch.

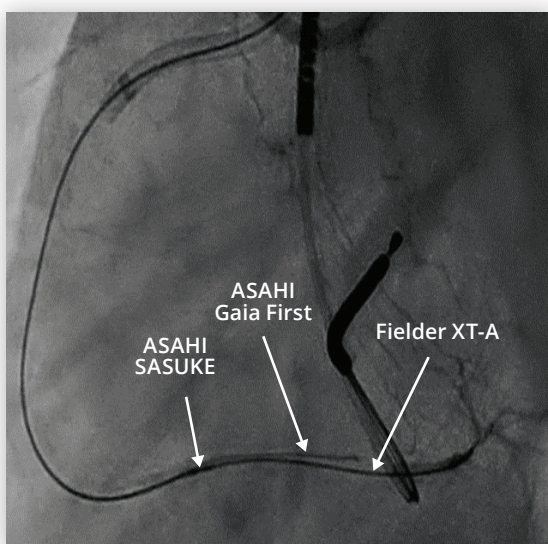
After retrieving the ASAHI SASUKE and the first wire by trapping technique, I dilated the CTO segment with a small balloon and checked IVUS from distal PD branch to mid RCA (Figure 4).



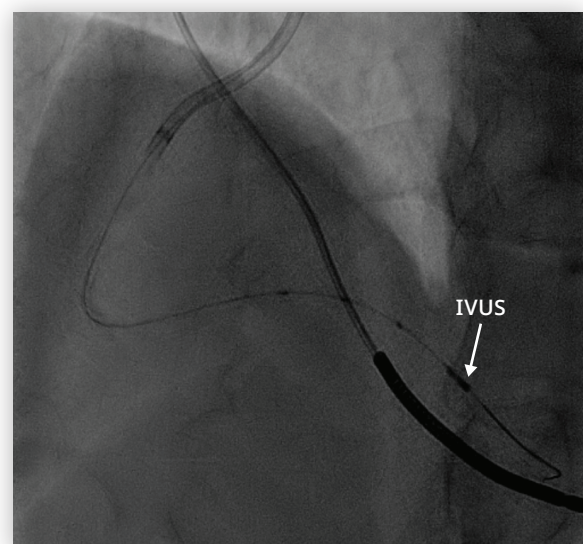
1. Distal RCA occlusion.



2. Guide wire went into the subintimal plane.



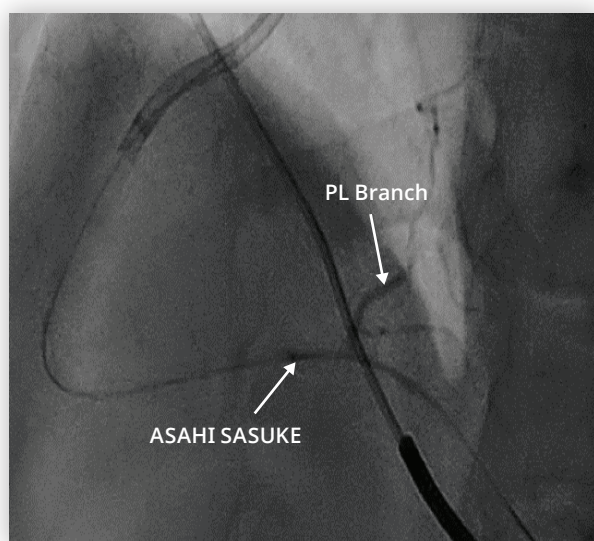
3. ASAHI SASUKE for Parallel Wire Technique.



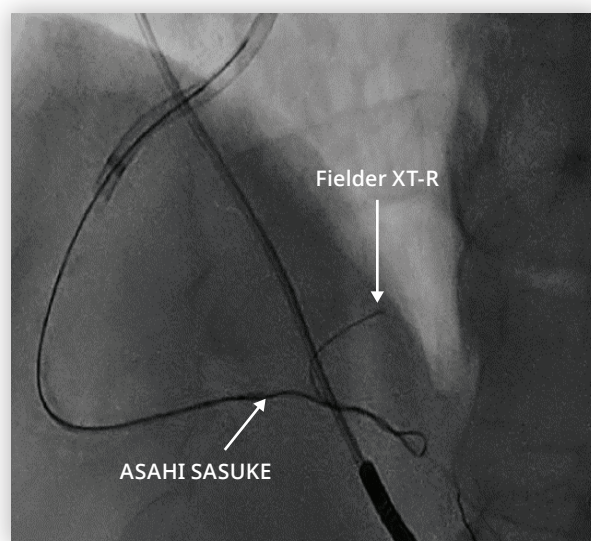
4. Checked IVUS for guide wire position.



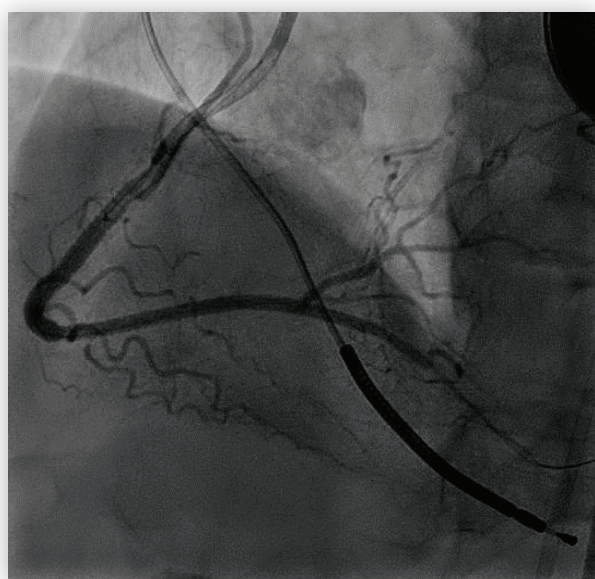
### 3 The Intervention *(continued)*



5. Selective Injection with ASAHI SASUKE.



6. Reverse Wire Technique with ASAHI SASUKE.



7. Final result.

I attempted to steer a guide wire into the PL branch to protect stent placement. However, it didn't work well as the branch was highly angulated.

I took ASAHI SASUKE and made a selective injection through the OTW-port to visualize targeted PL branch (Figure 5).

To be able to select PL branch, I used the Reverse Wire Technique with ASAHI SASUKE; Fielder XT-R was shaped for Reverse wire technique and was placed in the OTW-port of ASAHI SASUKE. The guide wire and ASAHI SASUKE were delivered distally beyond the target PL branch.

I pulled ASAHI SASUKE back to help support the OTW-guide wire to engage into the PL branch. Once the guide wire tip engaged to the branch, I pulled the guide wire, and it successfully advanced into the distal PL branch (Figure 6).

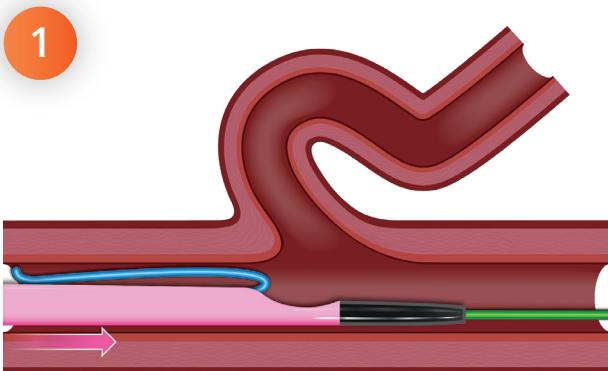
### 4 In Summary

I succeeded the case by utilizing three different techniques supported by ASAHI SASUKE. Parallel wire technique at the CTO segment, Selective injection through OTW-port

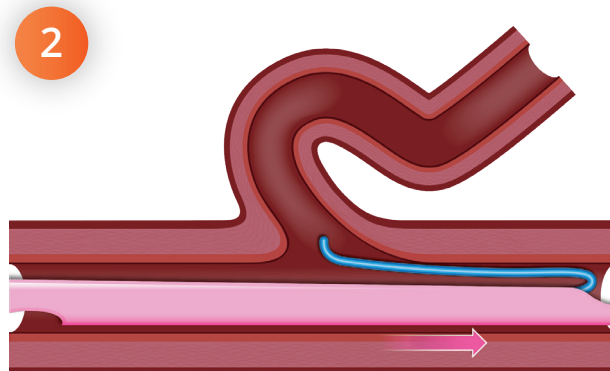
to visualize the targeted PL branch, and finally Reverse Wire technique to select the steeply angulated PL branch.



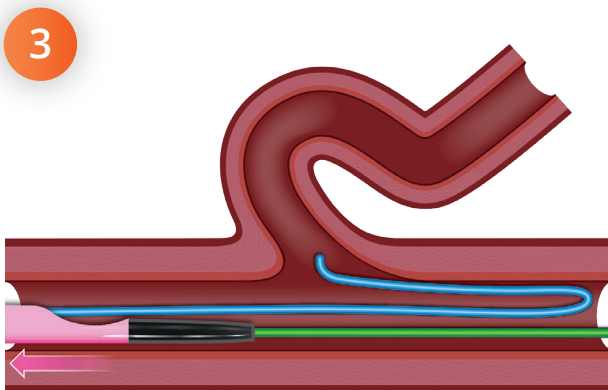
### Reverse Wire Technique:



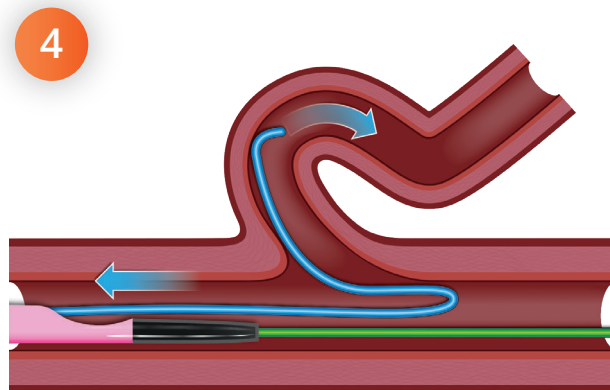
1: The ASAHI SASAUKE and reversed shaped guide wire are delivered in the main branch with the first guide wire.



2: Subsequently, advance the catheter distal to the target side branch to align the reversely shaped guide wire tip with the ostium.

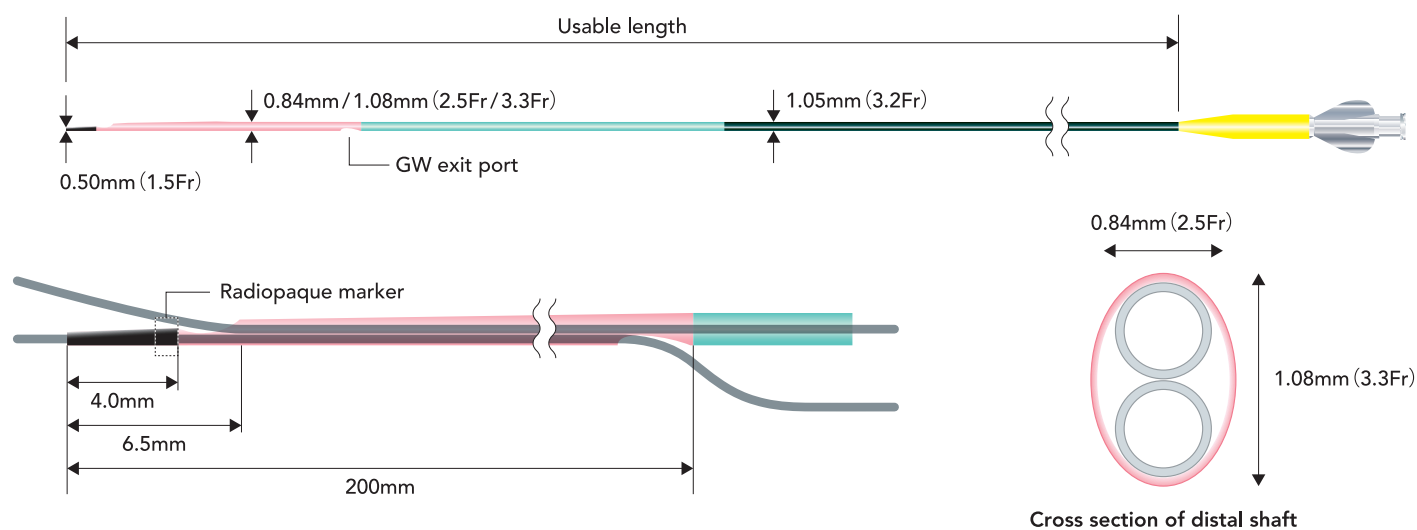


3: The reversely shaped second guide wire is engaged in the target side branch by retracting the ASAHI SASUKE.



4: The second guide wire can advance into the side branch by pulling it backwards.

## Structure & ordering information



Product	Catalog No.	Outer diameter			Inner diameter		Usable length	Recommended guide wire	Hydrophilic coating length
		Tip	Distal shaft	Proximal shaft	Tip	Shaft			
<b>ASAHI SASUKE</b>	SA145-33N	0.50 mm (1.5Fr)	0.84 mm / 1.08 mm (2.5Fr / 3.3Fr)	1.05 mm (3.2Fr)	0.40 mm (0.016 inch)	0.43 mm (0.017 inch)	145 cm	0.36 mm (0.014 inch)	38 cm

CE 0344

© 2020 ASAHI INTECC CO., LTD.  
 "ASAHI", "ACT ONE", "ASAHI Gladius", "ULTIMATEbros", "GRAND SLAM", "Silverway", "SASUKE", "SION", "Fielder", "ASAHI Conquest", "Confianza Pro", "SUOH", "ASAHI Gaia", "Corsair", "Corsair Pro" and "Caravel" are trademarks or registered trademarks of ASAHI INTECC CO., LTD. in Japan and other countries. All other trademarks are the property of their respective owners.  
 Coated with SLIP-COAT®

Manufactured by:

Distributed by:

**ASAHI INTECC**

**ASAHI INTECC CO.,LTD.**

3-100 Akatsuki-cho, Seto, Aichi 489-0071 Japan

Contact phone number: +81-561-86-9101

<http://www.asahi-intecc.com>

K20238\_C\_LC\_2.0