

How to choice channel selection and crossing

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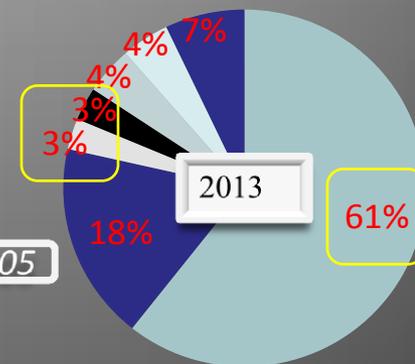
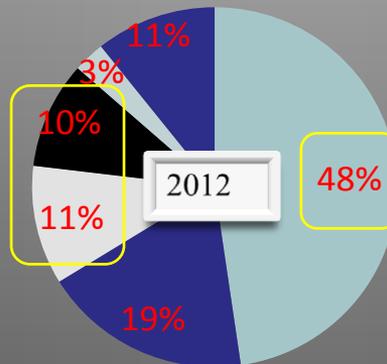
Procedure characteristics

Collateral approach

	Total (1028)	2012 (490)	2013 (538)	P
Guidewire cross	76.9% (791)	77.6% (380)	76.4%(411)	0.6600

Successful guidewire

- SION
- SION blue
- SUOH
- other
- XT-R
- Fielder FC
- SION black

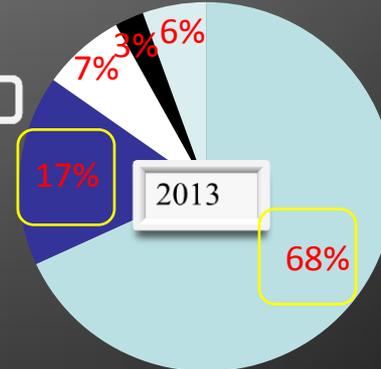
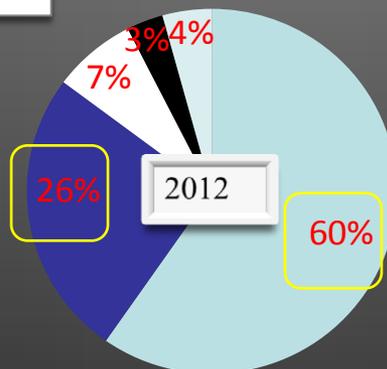


$P < 0.05$

$P < 0.05$

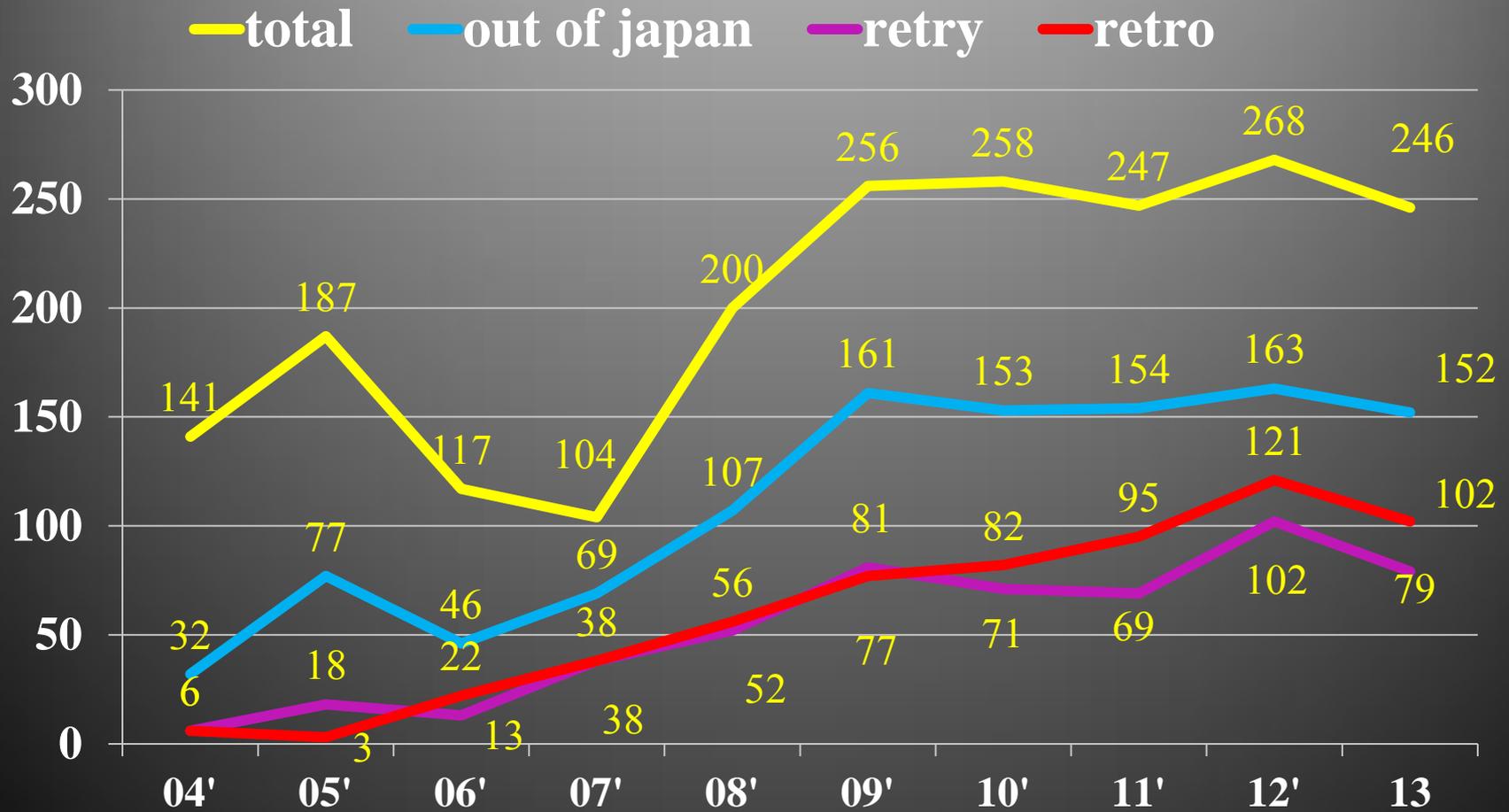
Successful collateral route

- Septal
- Epicardial
- AC
- Ipsilateral
- Bypass graft

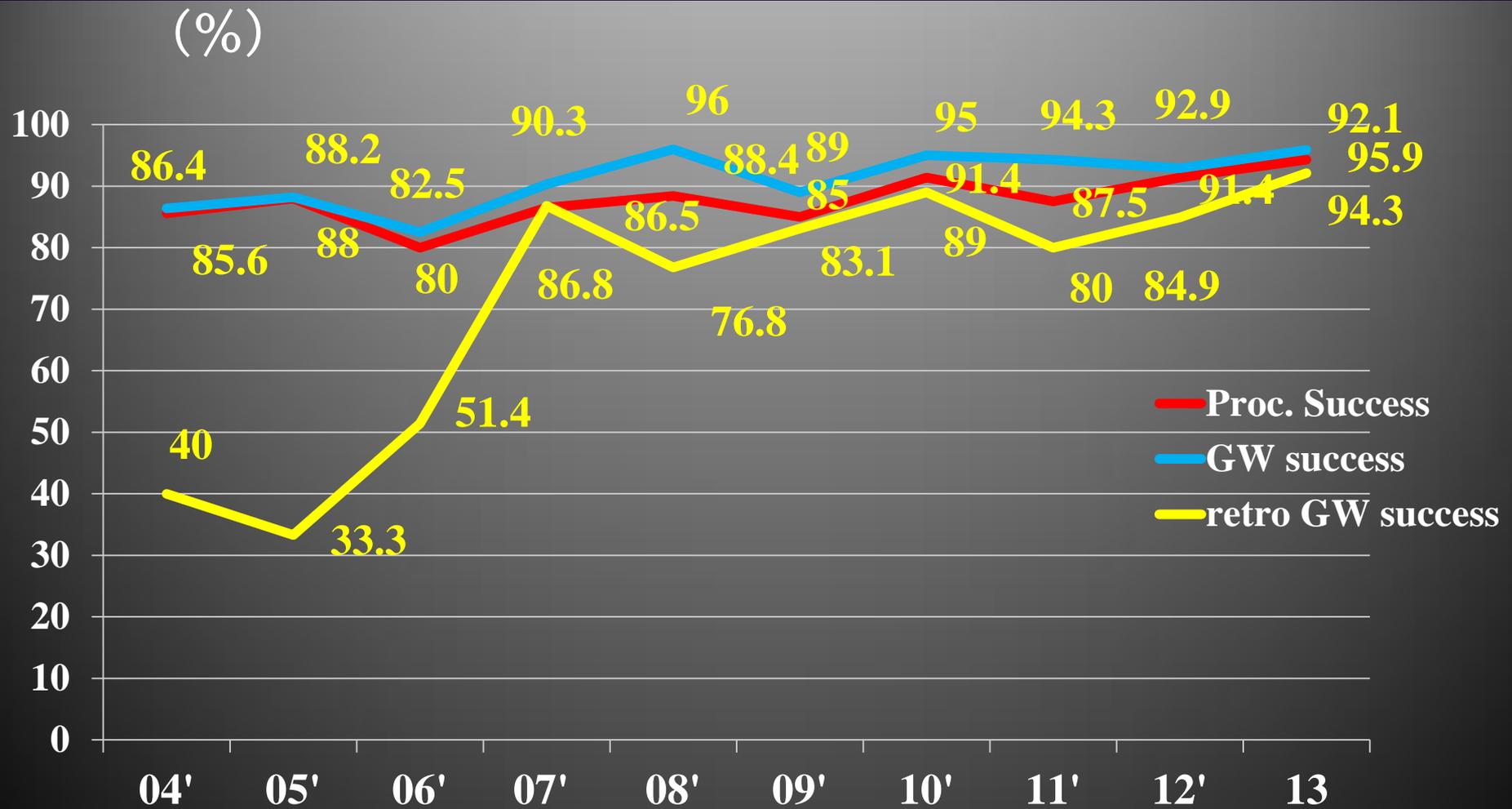


$P < 0.001$

Number of CTO lesion



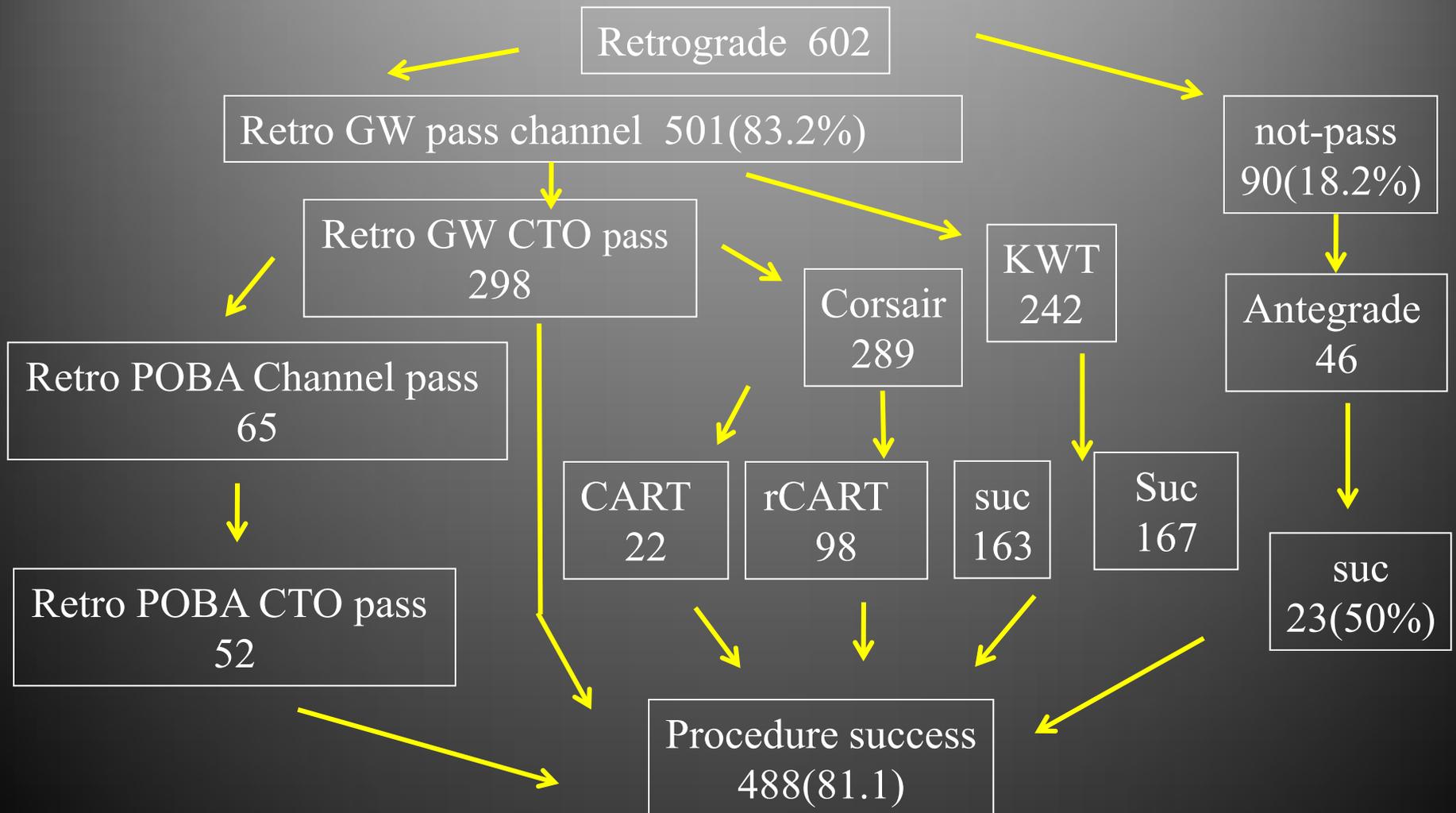
Success rate and retrograde approach for CTO



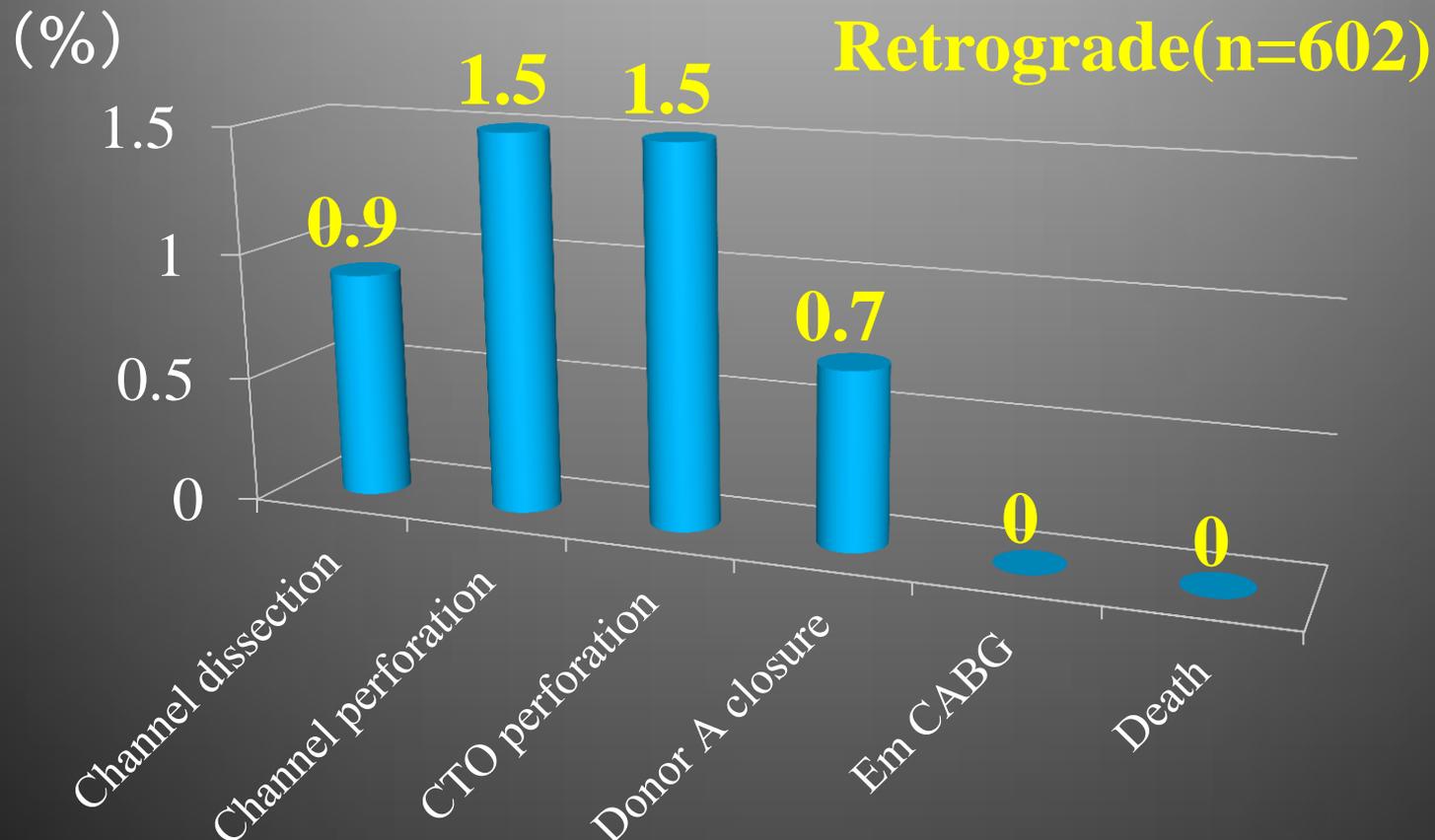
Backgroud of retrograde approach

N	602
Re-try	444
Unknown entry	145
Abrupt	22
Diffuse	12
Septal channel	410
Epicardial channel	192

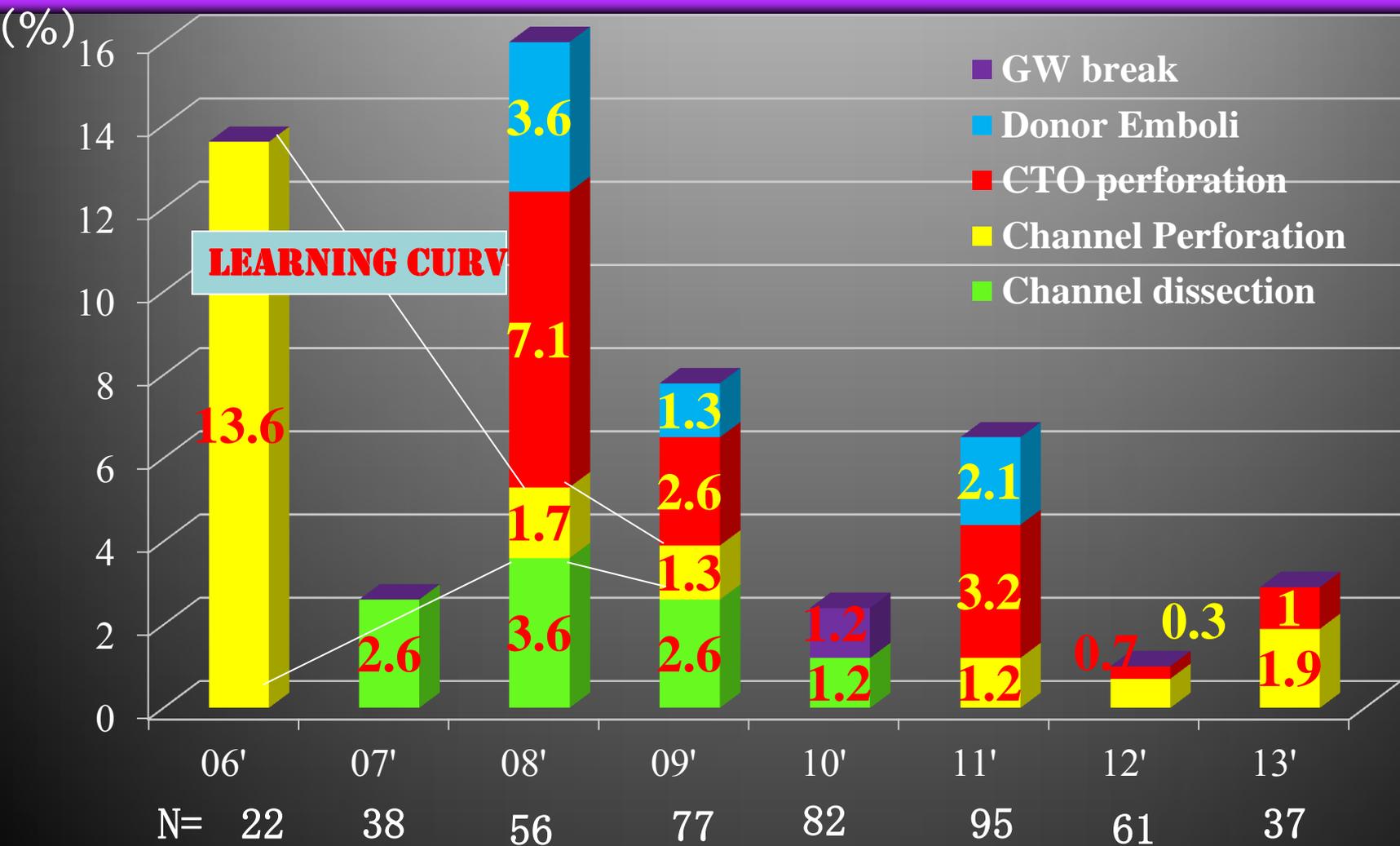
Flow chart of retrograde approach for CTO



Complication of retrograde approach for CTO



Complication of retrograde approach for CTO



Benefit and Risk of Collateral way

	Septal	Epicardial
Straight	(++)	(-)
Risk of perforation	Small	Big
Risk of Tamponade	Small	Big
Visibility	Fair~Good	Good
Length	Moderate	Long

Reading angiogram

- CTO image

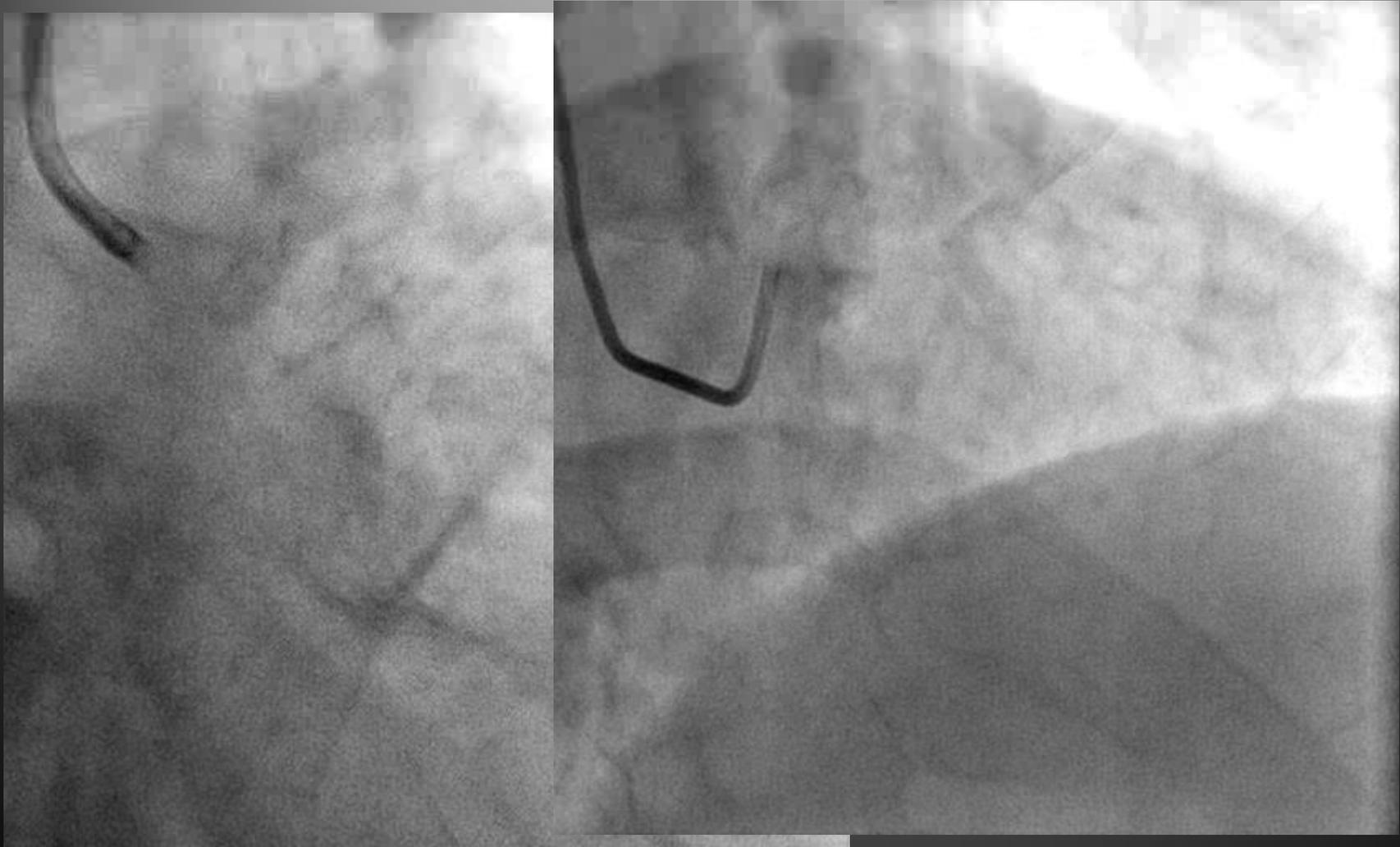
- Collateral angiogram

How many Collateral channel
Channel length, size, angle

Where come from, where to go
Sepal or epicardial

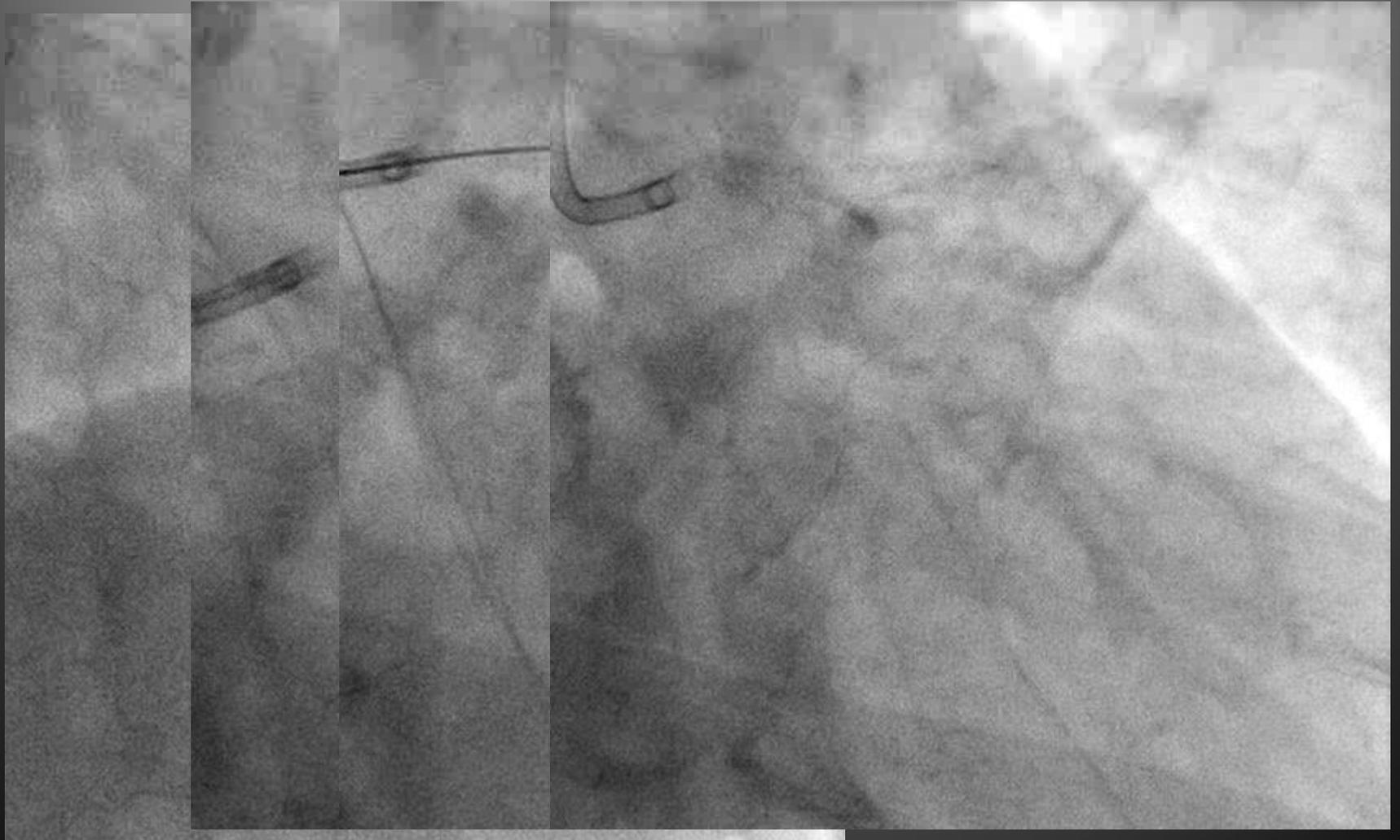
What is the most proper image view
Angle of branch and entry site

Collateral pathway



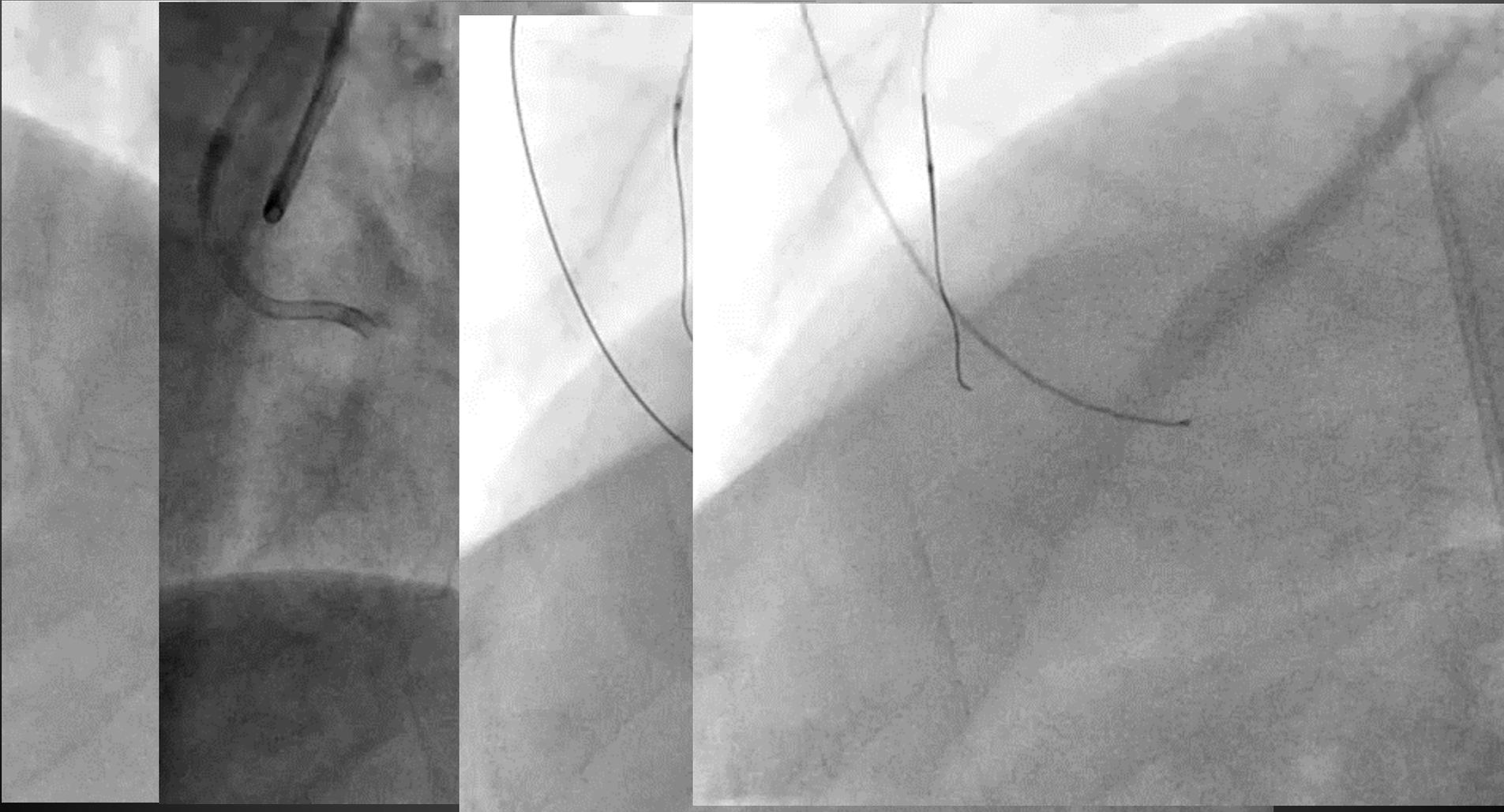
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Retrograde for Septal channel



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Collateral pathway



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Collateral pathway



RAO cranial



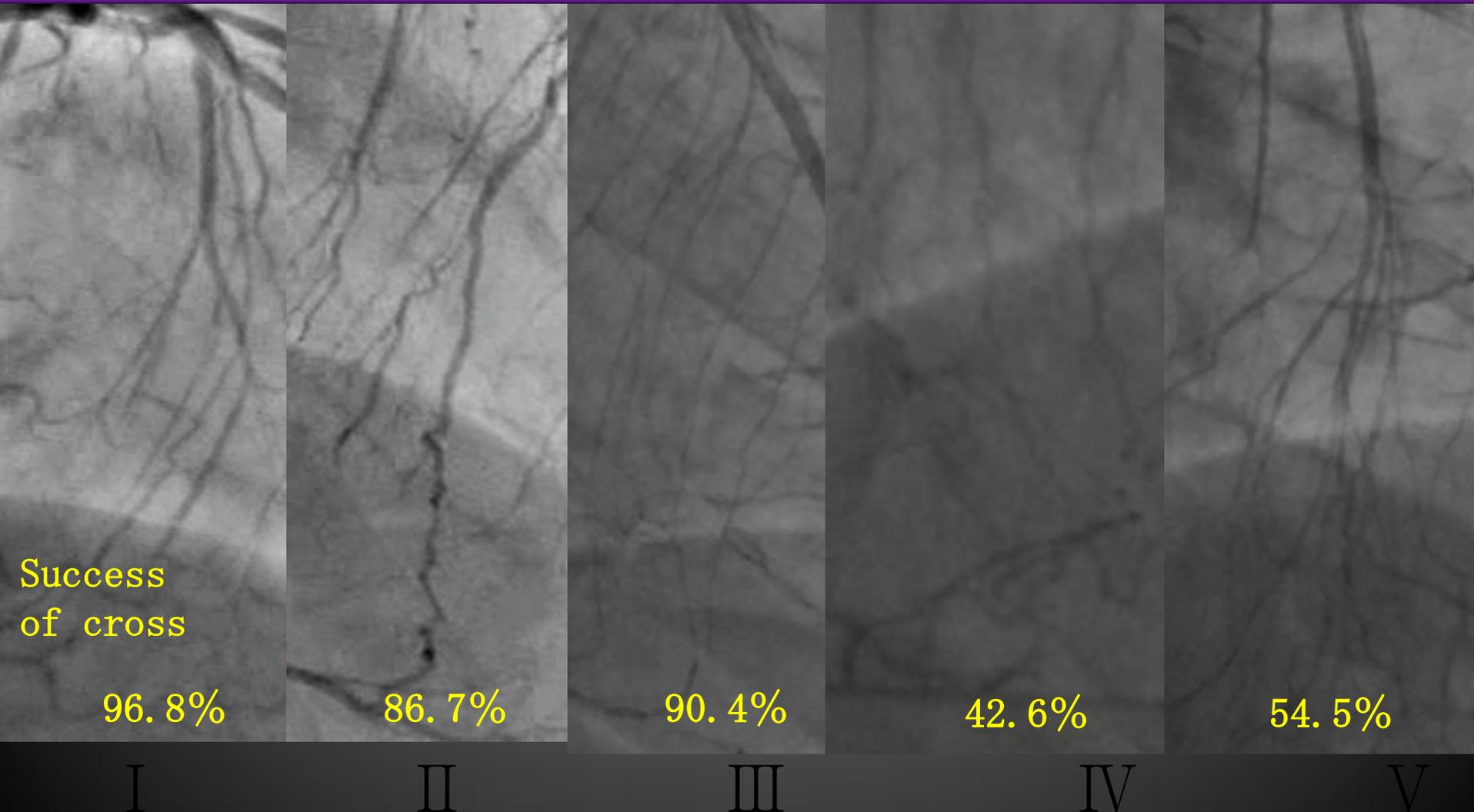
Lateral 90°

Classification of septal collateral way

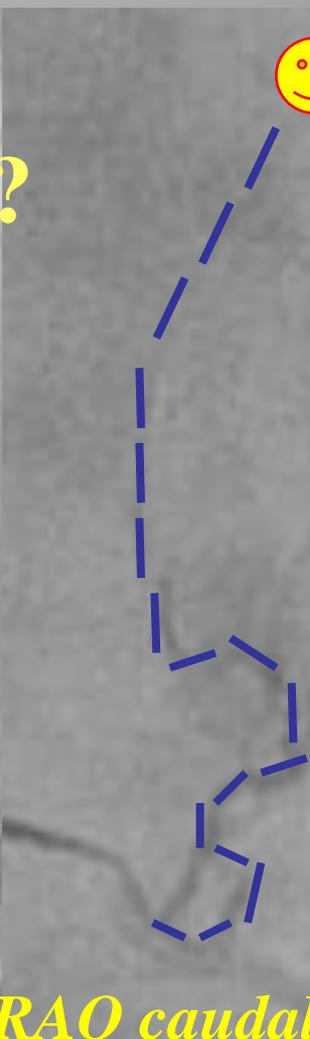
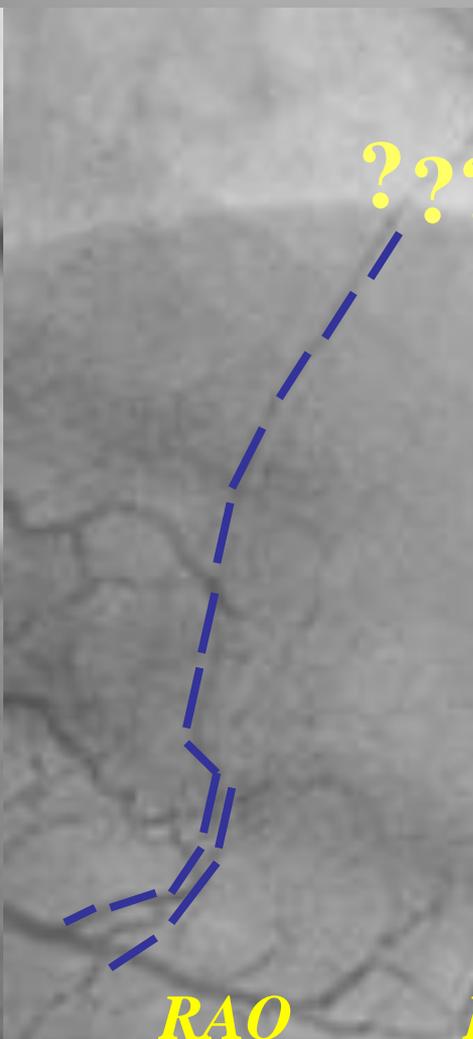
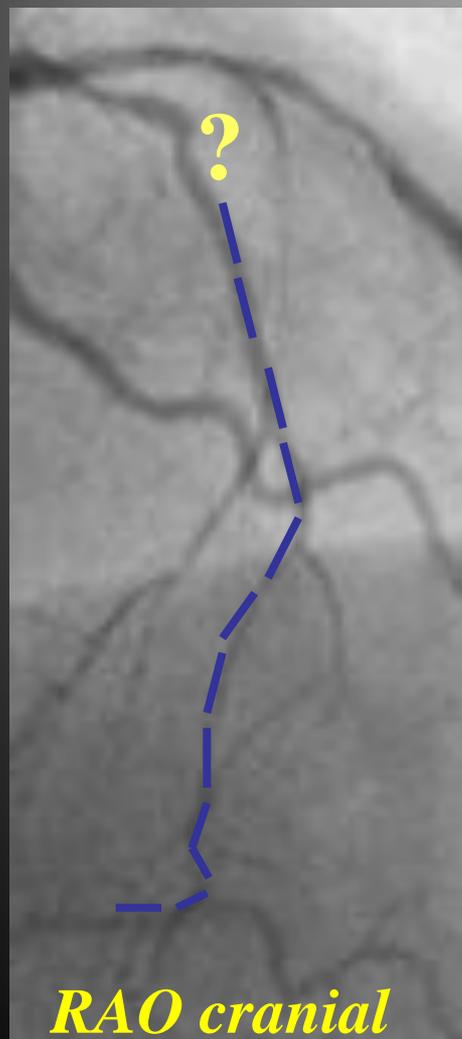


	Channel size		V
Channel bent	1mm<	1mm>	
90 degree>	I	III	
90 degree<	II	IV	

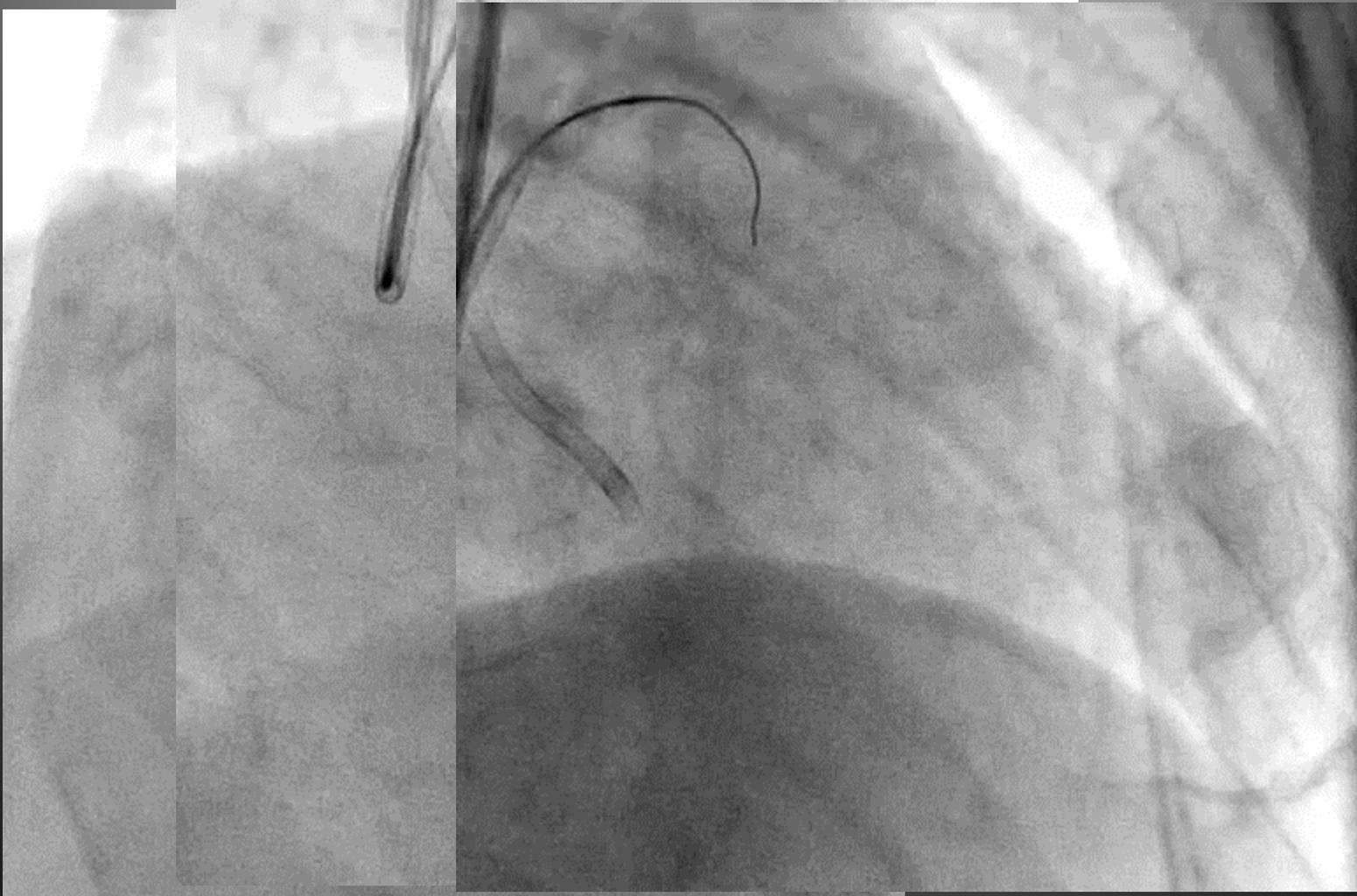
Classification of septal collateral way



Evaluation of tortuous collateral way

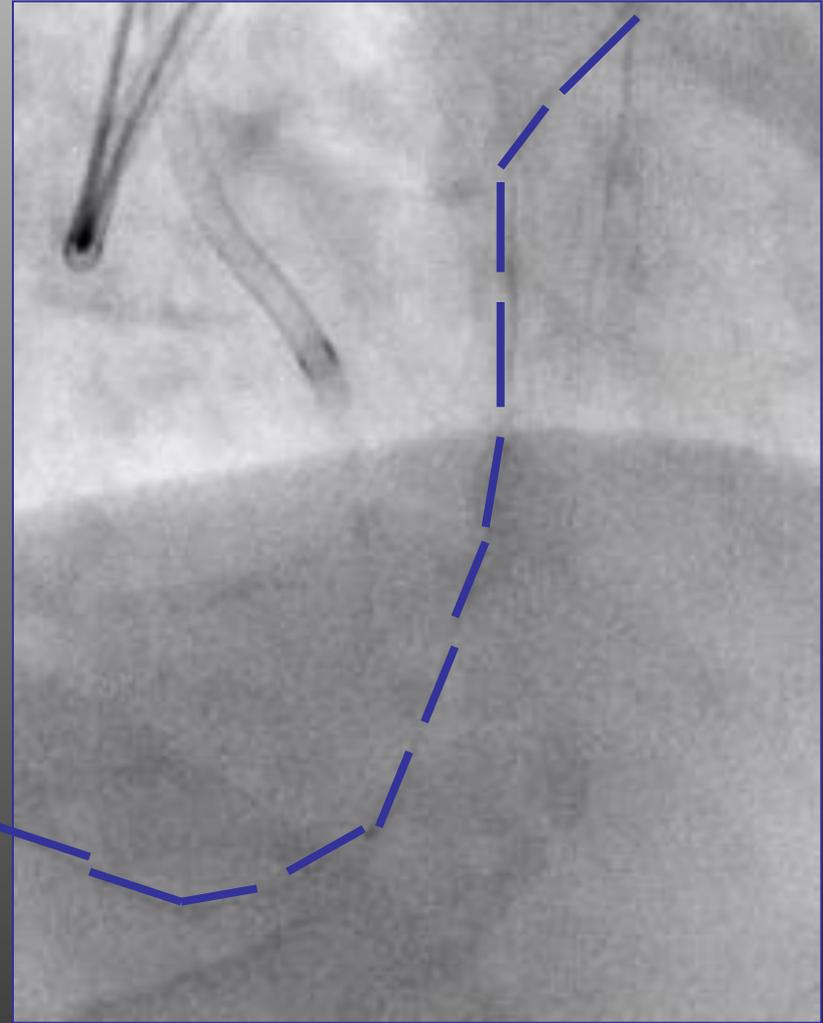
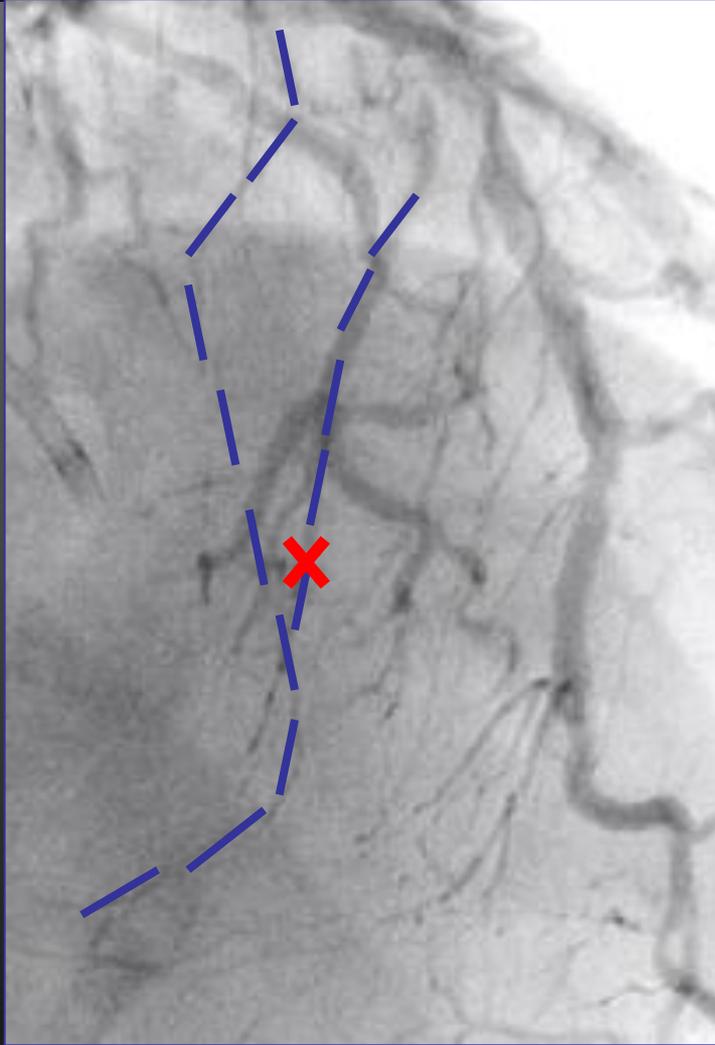


Chnging collaterals for RCA CTO



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Retrograde with changed collaterals



Sion series GW

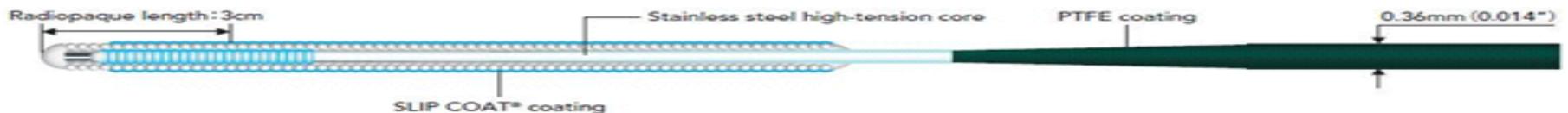
ASAHI
SION
PTCA GUIDE WIRE



- Tip Load 0.7g
- Radiopacity 3cm
- Coil 28cm
- Diameter 0.014inch
- Length 175cm



ASAHI
SION blue
PTCA GUIDE WIRE



- Tip Load 0.5g
- Radiopacity 3cm
- Coil 20cm
- Diameter 0.014inch
- Length 175cm

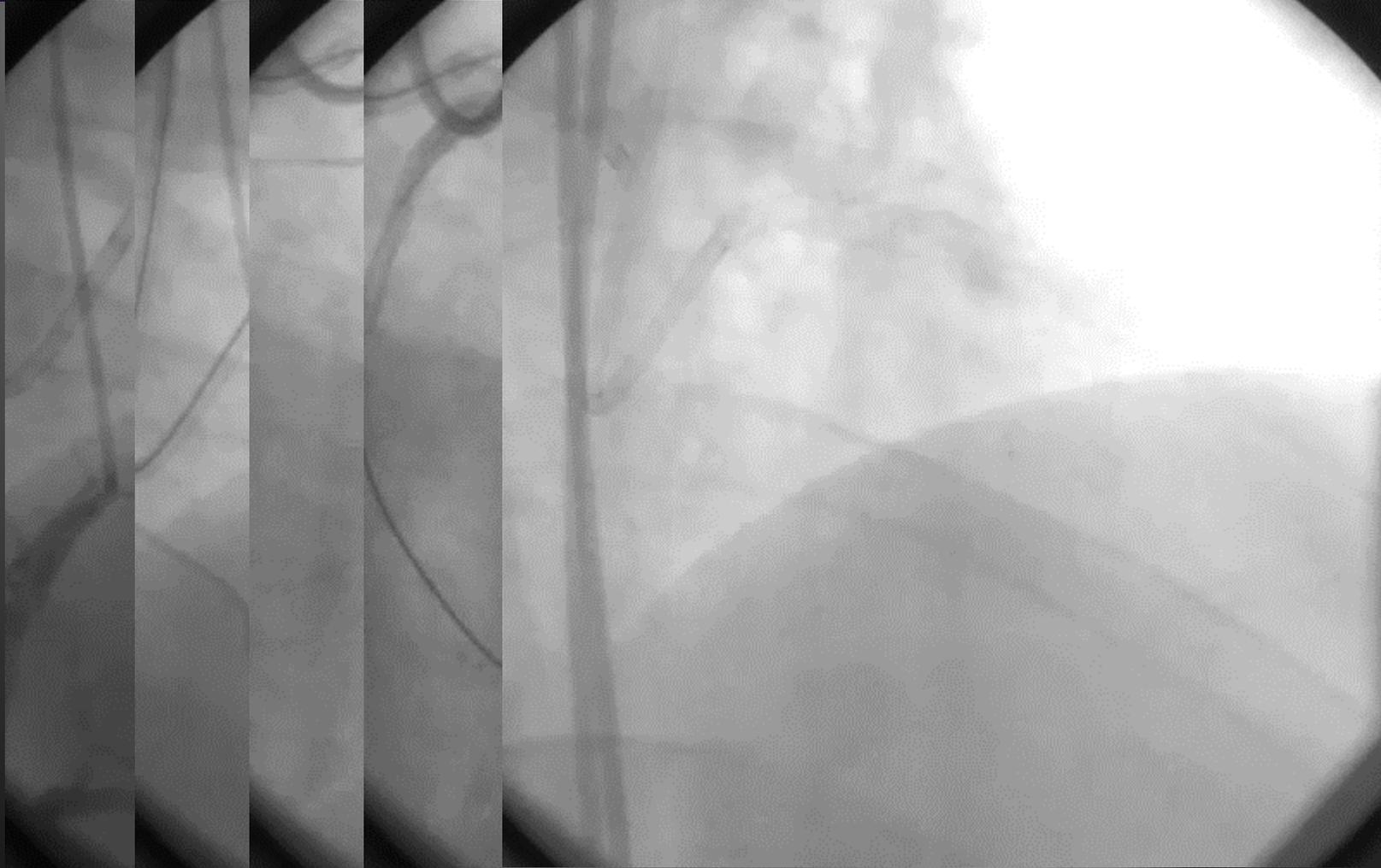


Fielder XTR GW



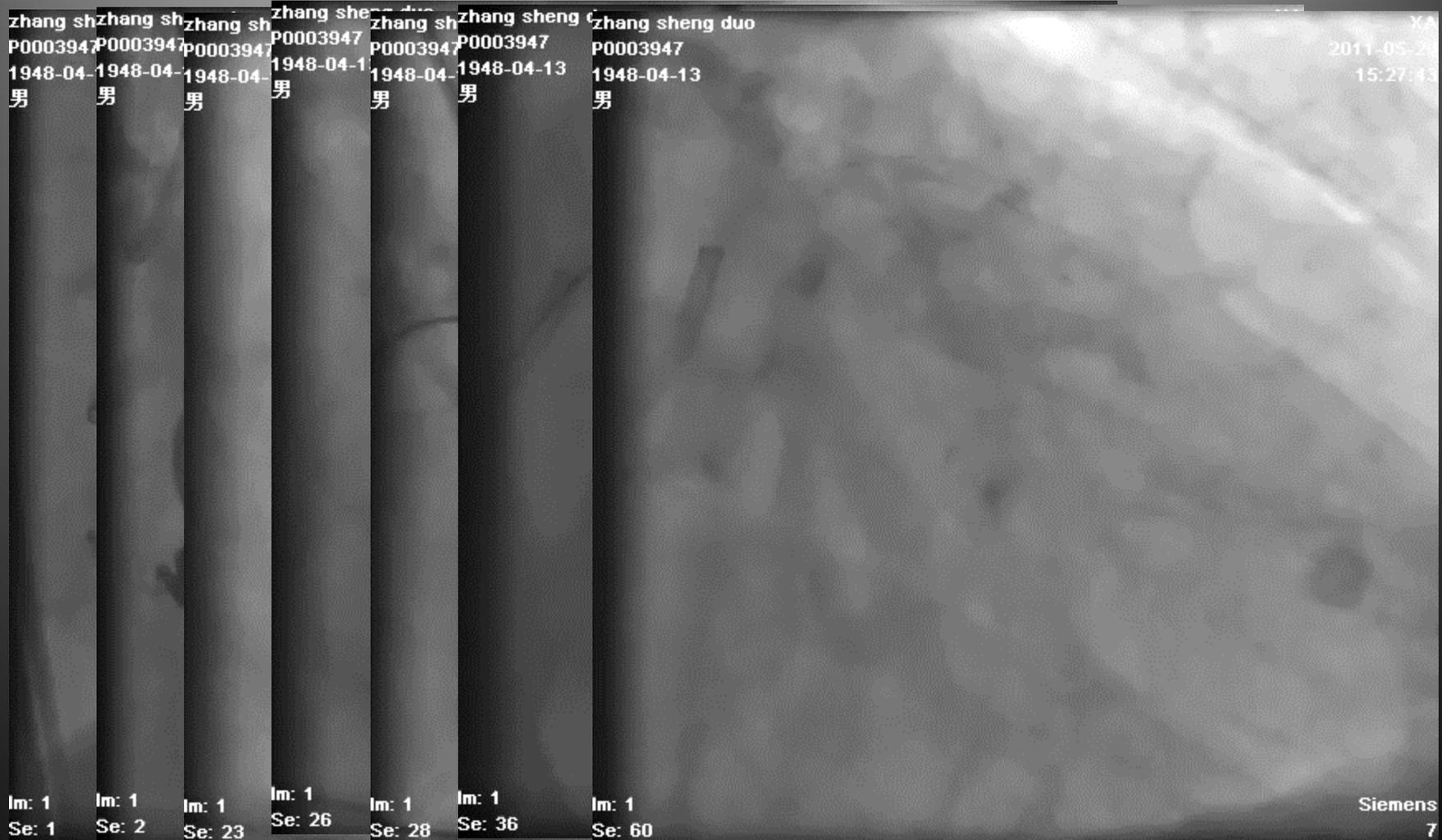
- Tip size 0.010inch
- Polymer coat

Efficacy of Fielder XTR GW

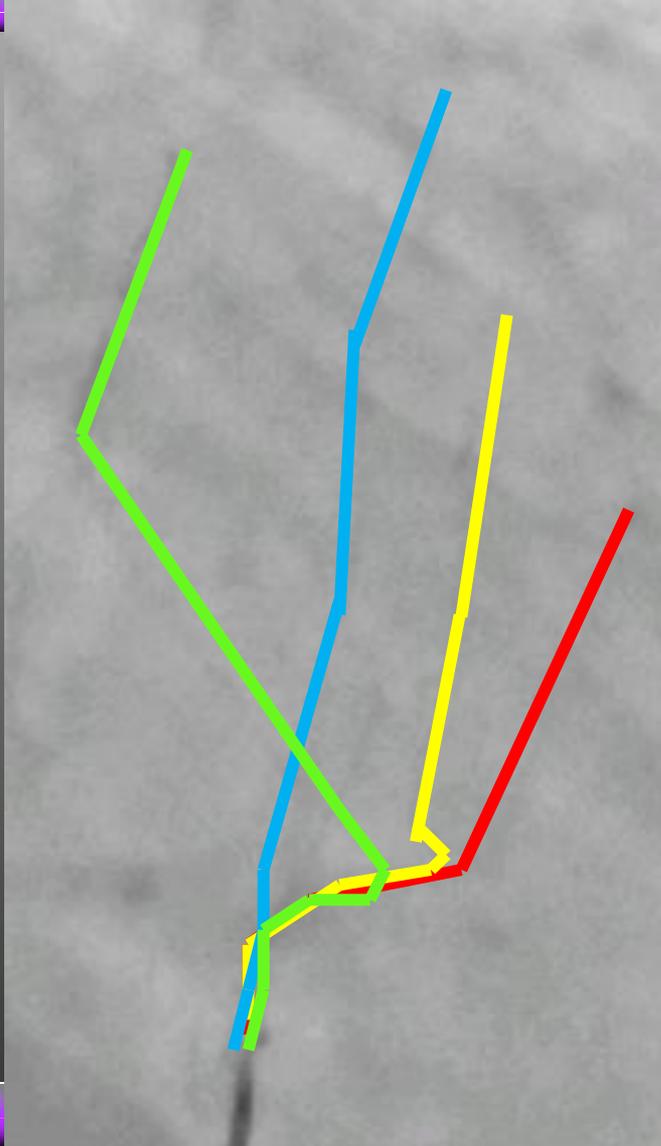


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Tough channel crossing

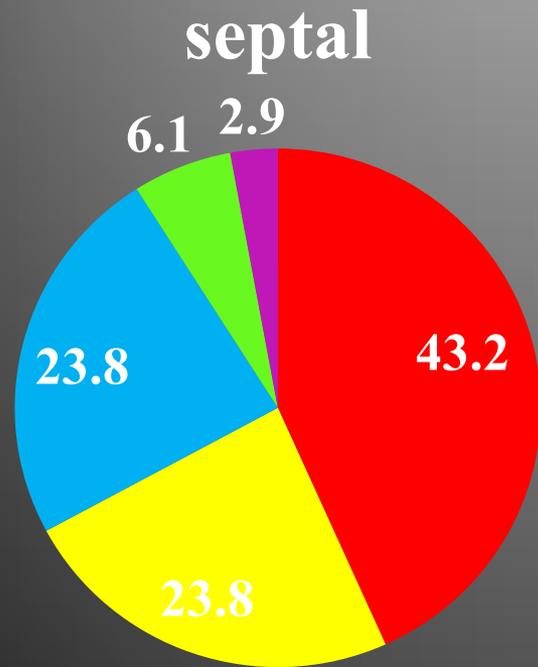


Tough channel crossing



Channel morphology with septal and epicardial channel

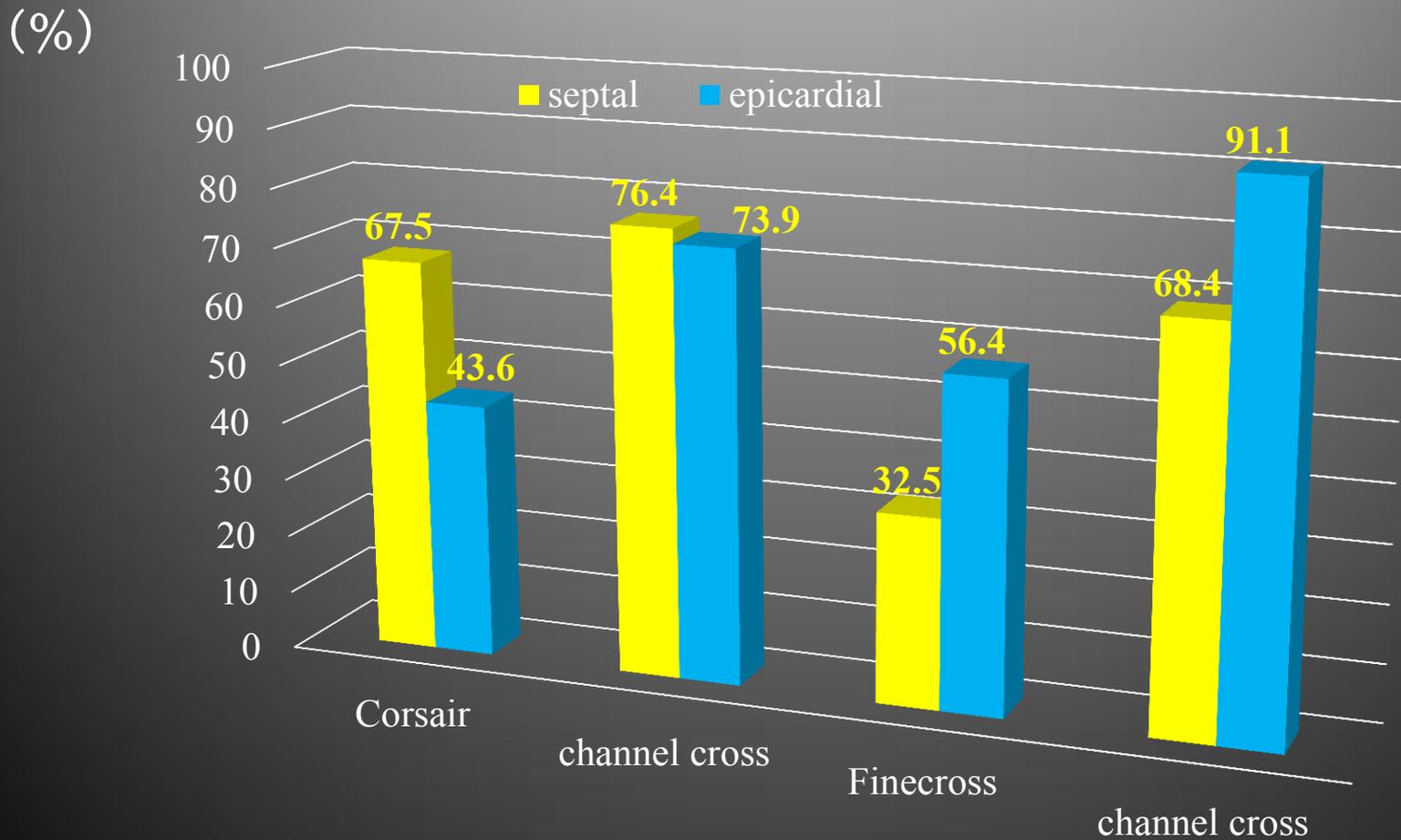
(%)



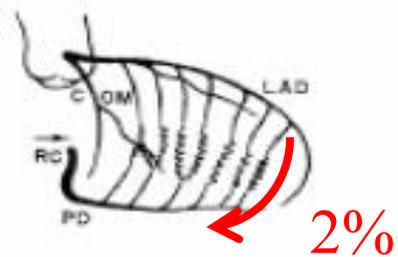
FC Sion Sion blue XTR XT

FC Sion Sion blue XTR XT

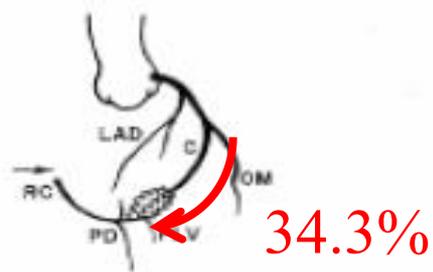
Penetration catheter with septal and epicardial channel



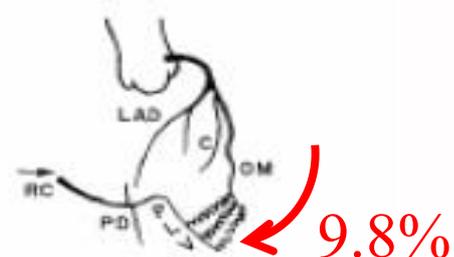
Epicardial Collateral (RCA)



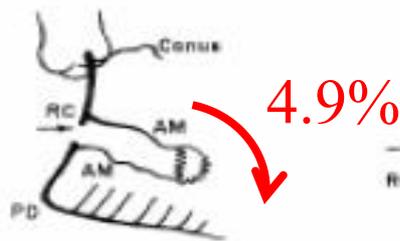
A. RAO-LC Injection (28)



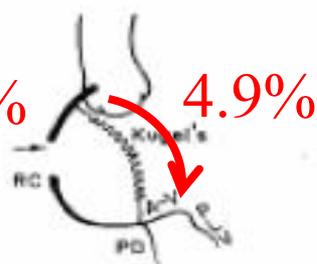
B. LAO-LC Injection (24)



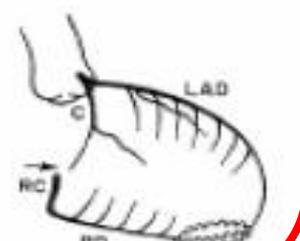
C. LAO-LC Injection (17)



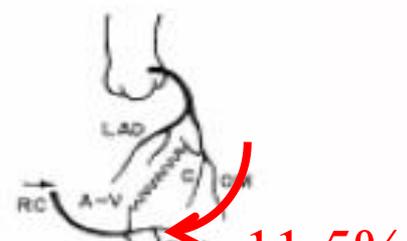
D. RAO-RC Injection (9)



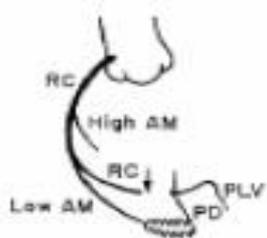
E. LAO-RC Injection (9)



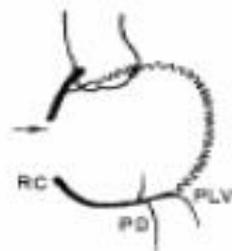
F. RAO-LC Injection (9)



G. LAO-LC Injection (6)



H. LAO-RC Injection (6)

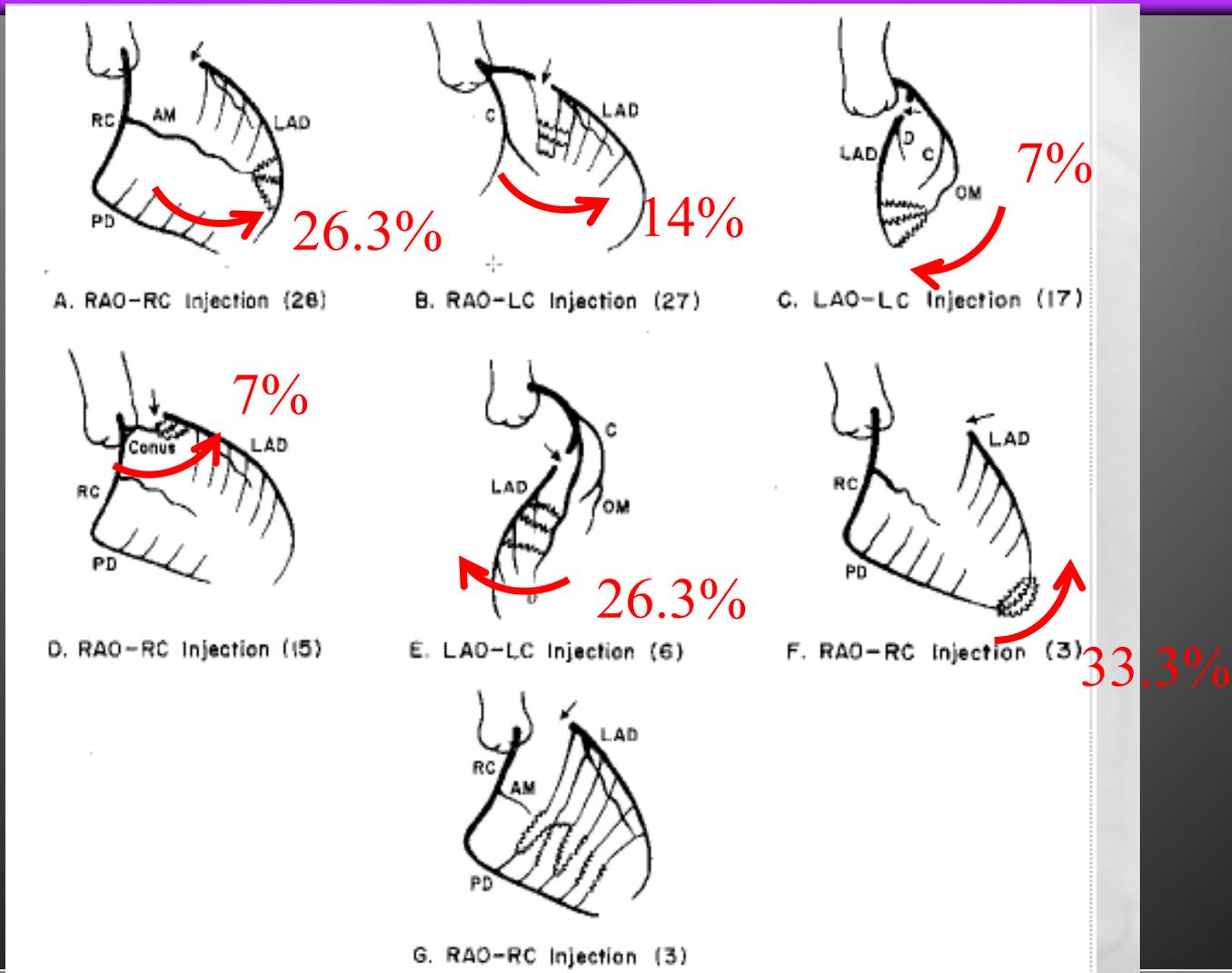


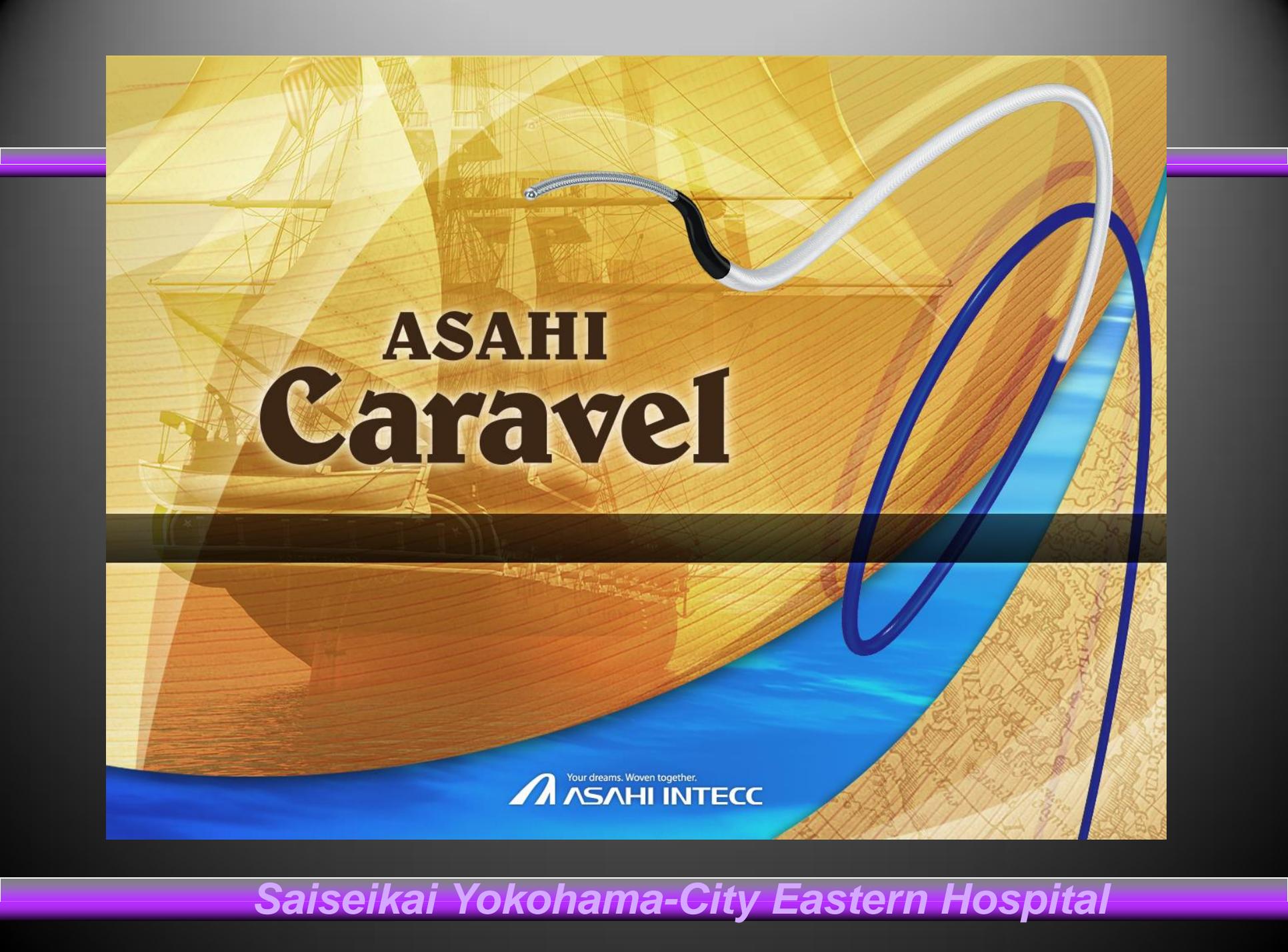
I. LAO-RC Injection (2)



J. LAO-LC Injection (2)

Epicardial Collateral (LAD)



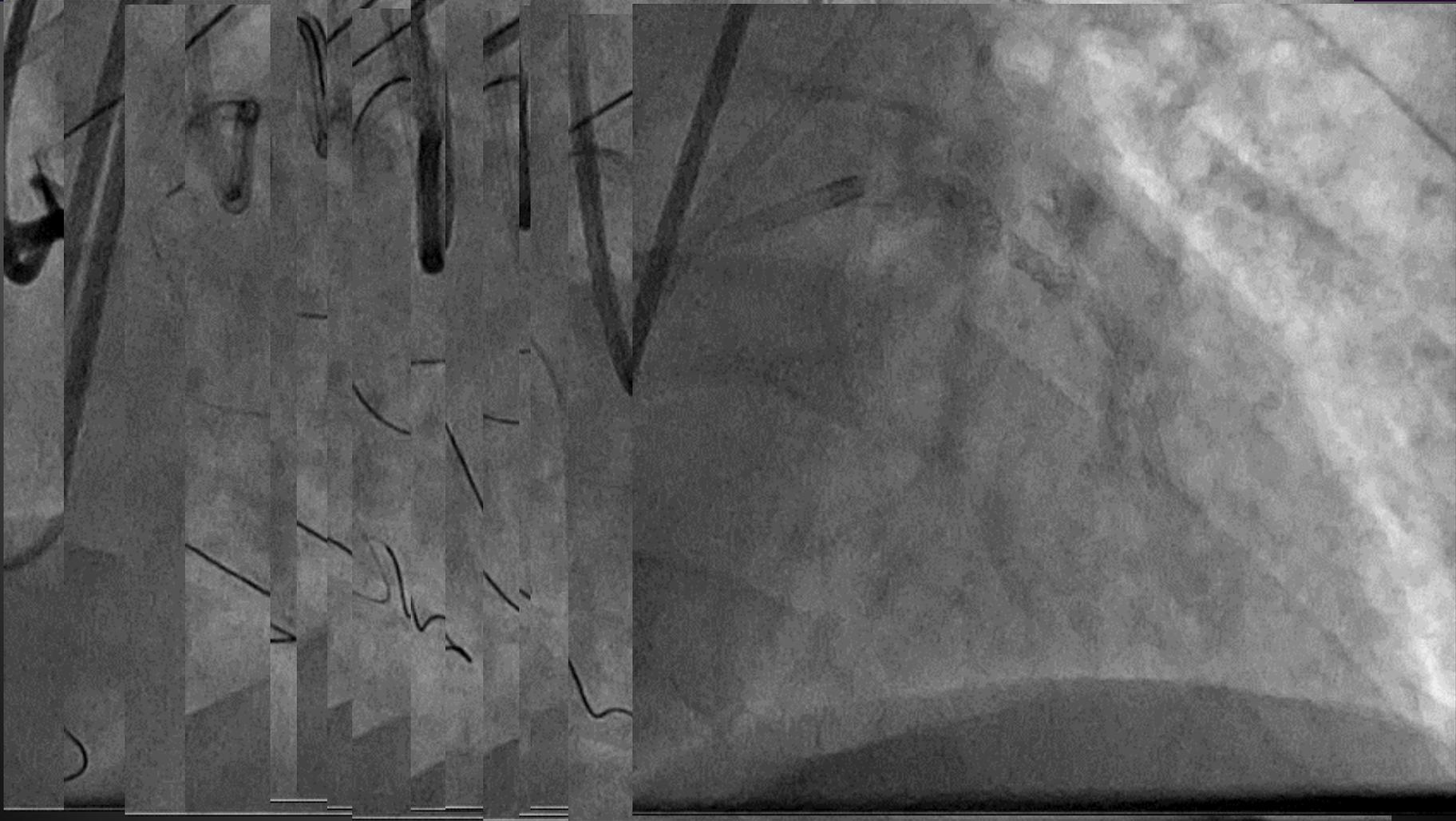
The background of the advertisement features a golden-yellow color palette with a faint, semi-transparent image of a multi-masted sailing ship (a caravel) and a historical map. A prominent blue and white medical endoscope is shown in the upper right quadrant, curving across the frame. The text 'ASAHI Caravel' is centered in a bold, black, sans-serif font.

ASAHI Caravel

Your dreams. Woven together.
ASAHI INTECC

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Toutous RV to LAD channel



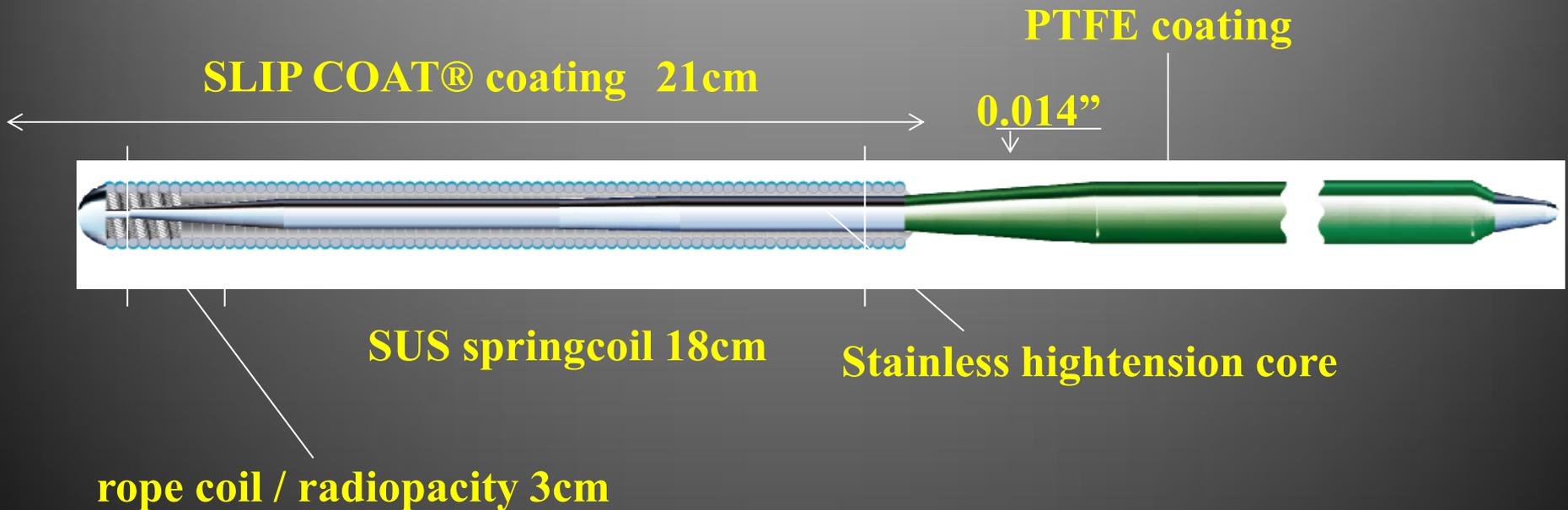
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Tortuous CB channel using XTR

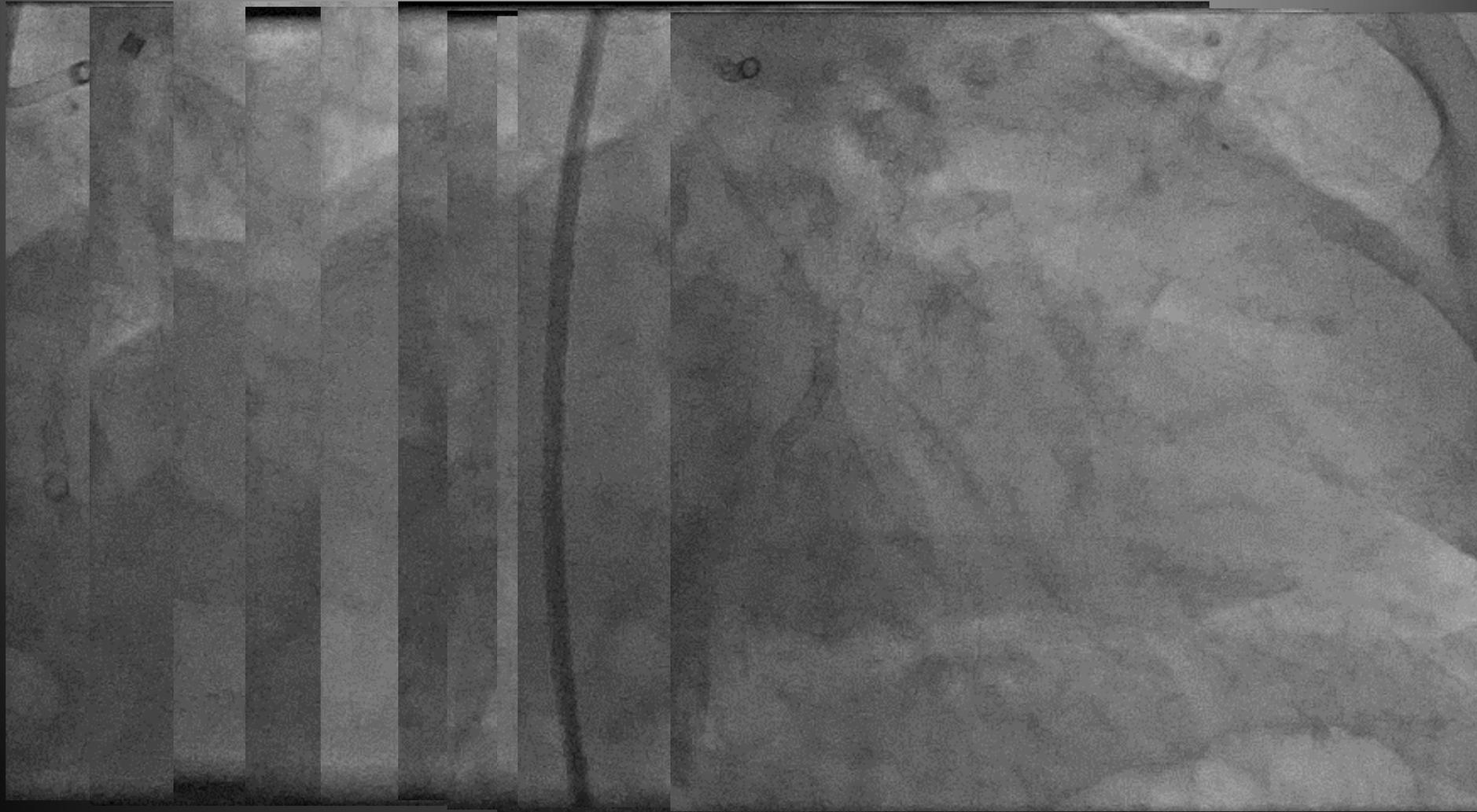


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Suoh guidewire

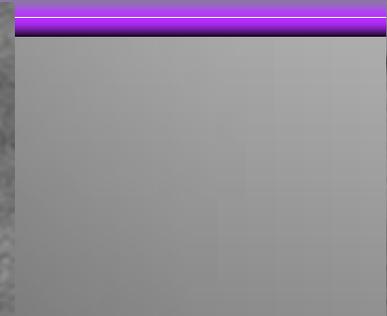
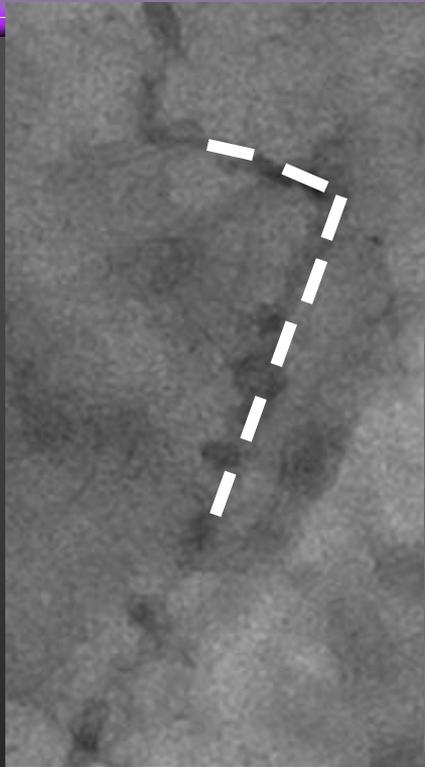


Tortuous CB channel using Suoh wire

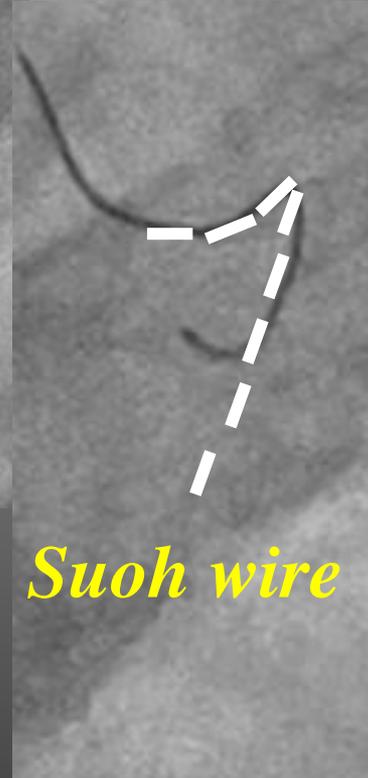


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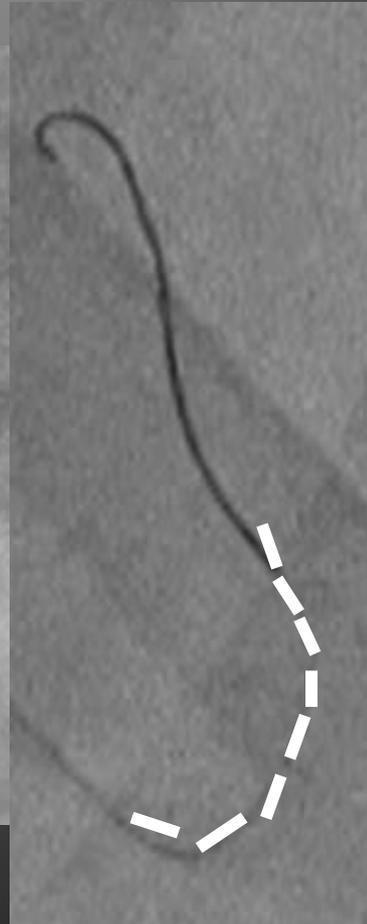
Tortuous CB channel using Suoh wire



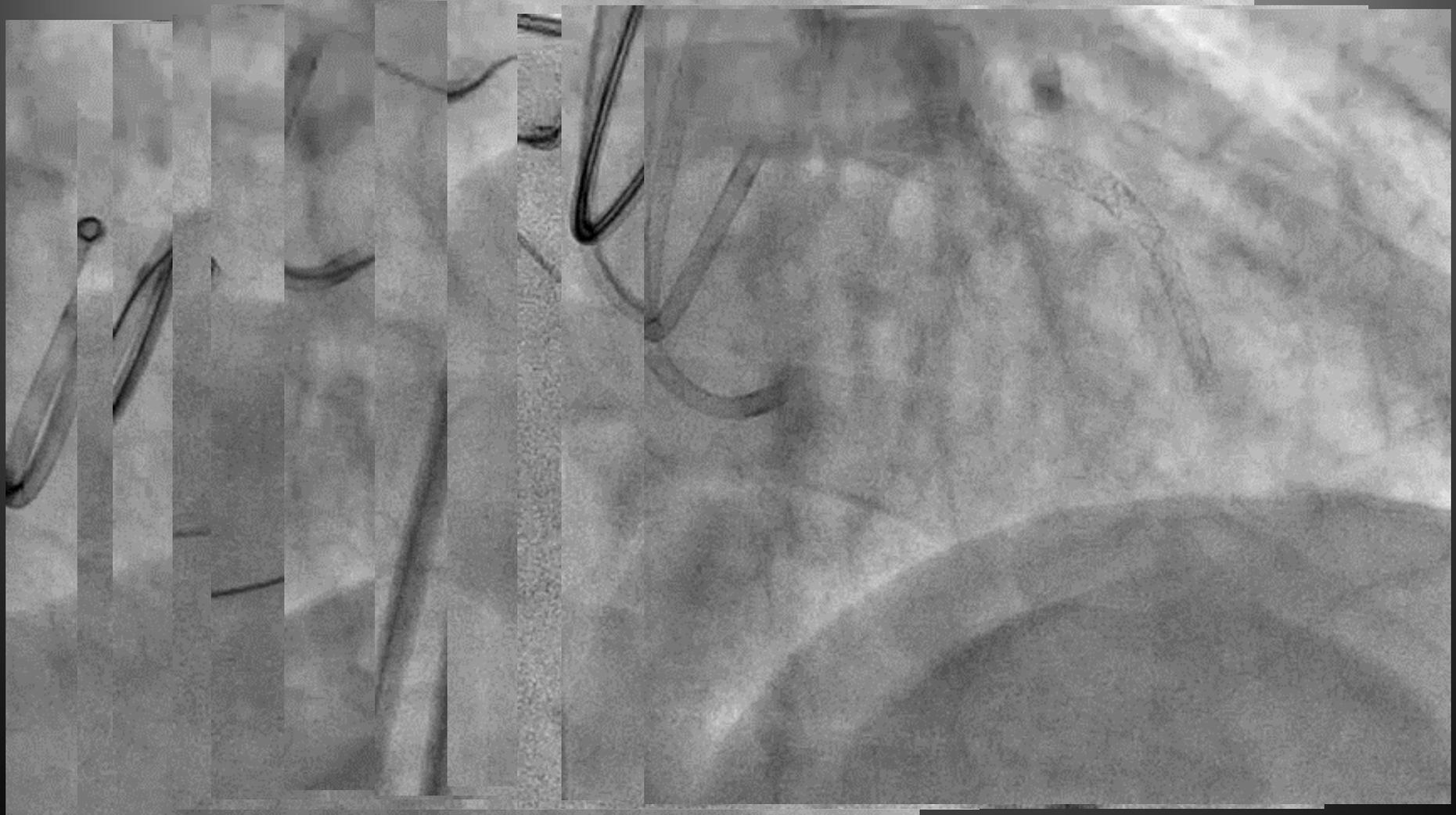
Sion wire



Suoh wire

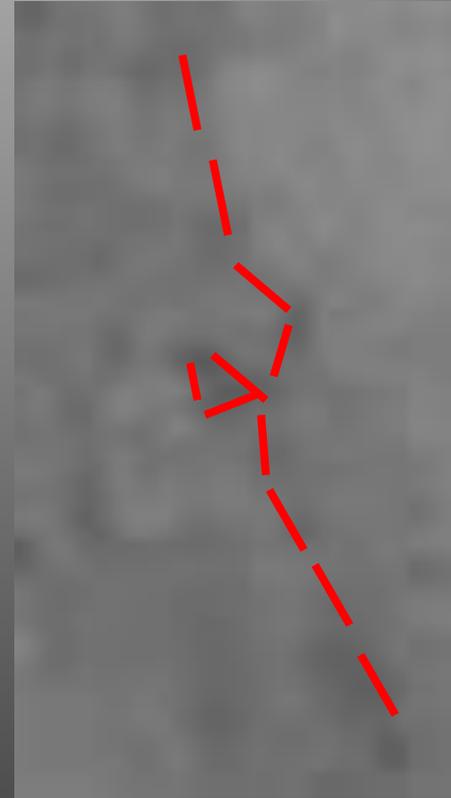
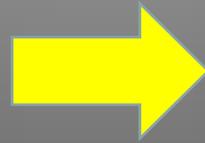


Delayed epicardial channel perforation

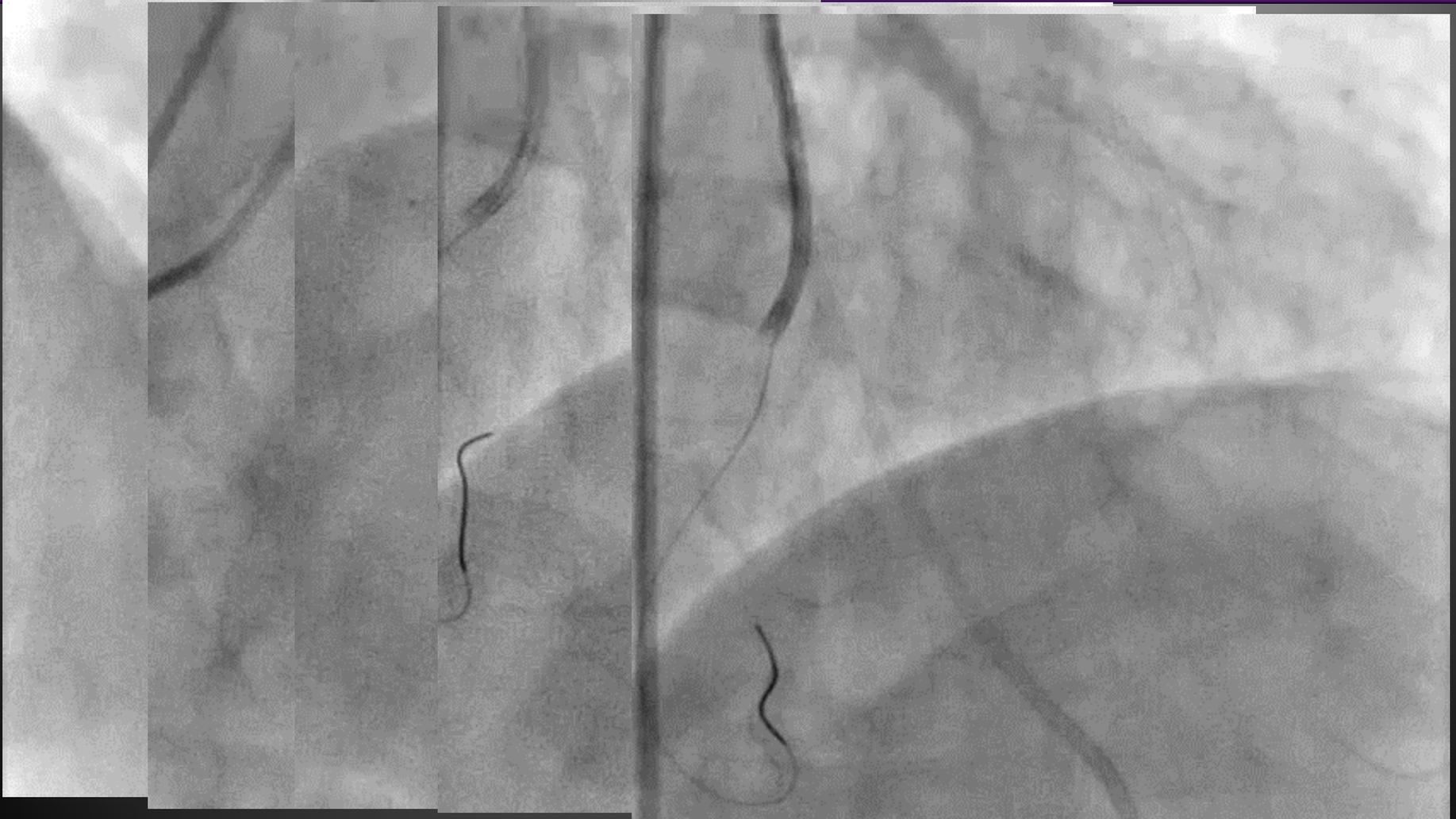


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Tiny angulation of channel

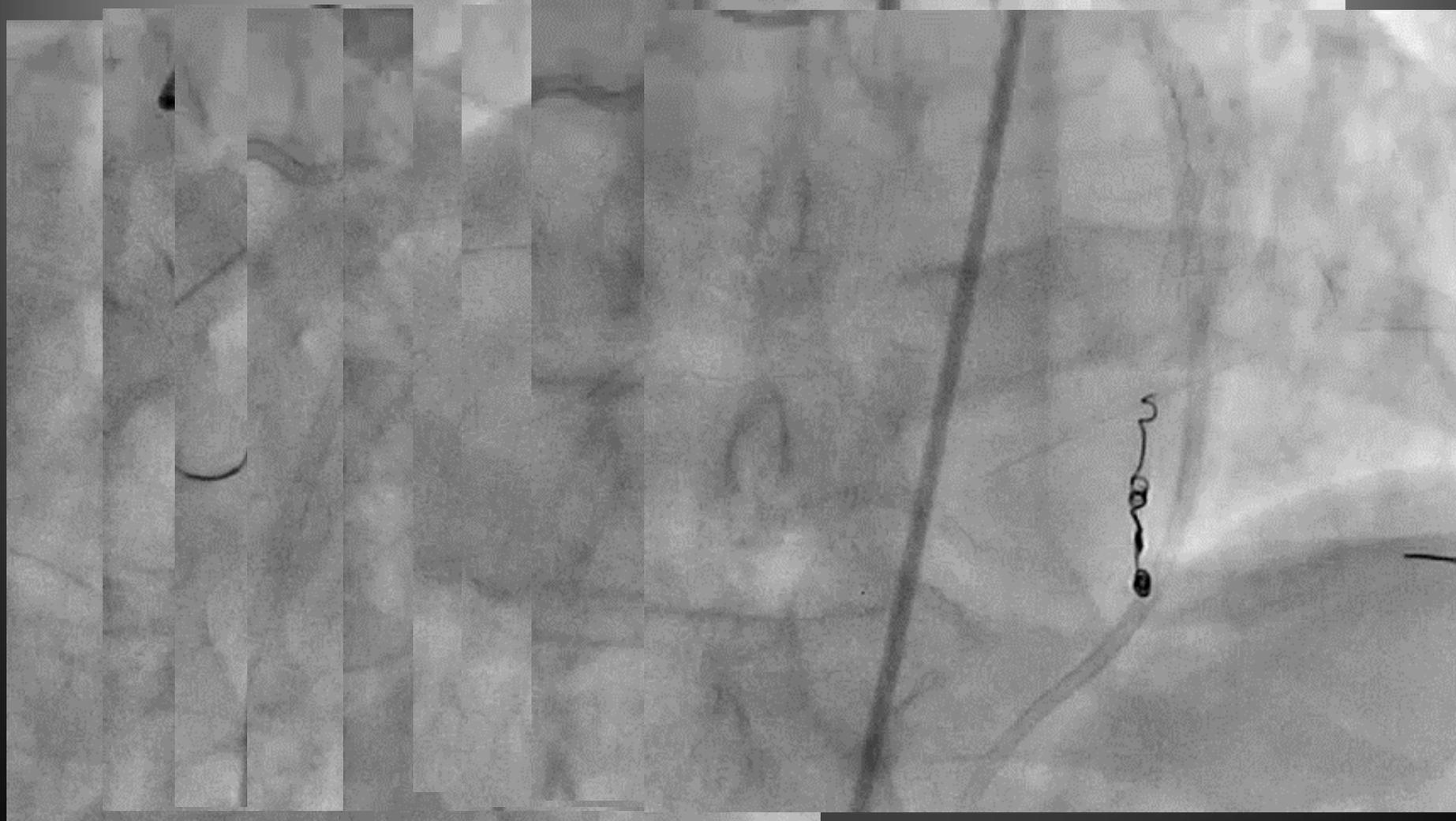


5 hours later



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12 hours later



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Conclusion

1. Use of epicardial channel is increasing year by year.
2. It is important to control guidewire according to watch angulation of collateral.
3. Small many angle make more difficult, small angled sharpening of GW may help to pass curve point.
4. Don't push strongly guidewire in the channel or blindly push, try to visualize the channel even during wire manipulation.
5. Soft small microcatheter is easy to cross tortuous channel and stretch channels angle.