

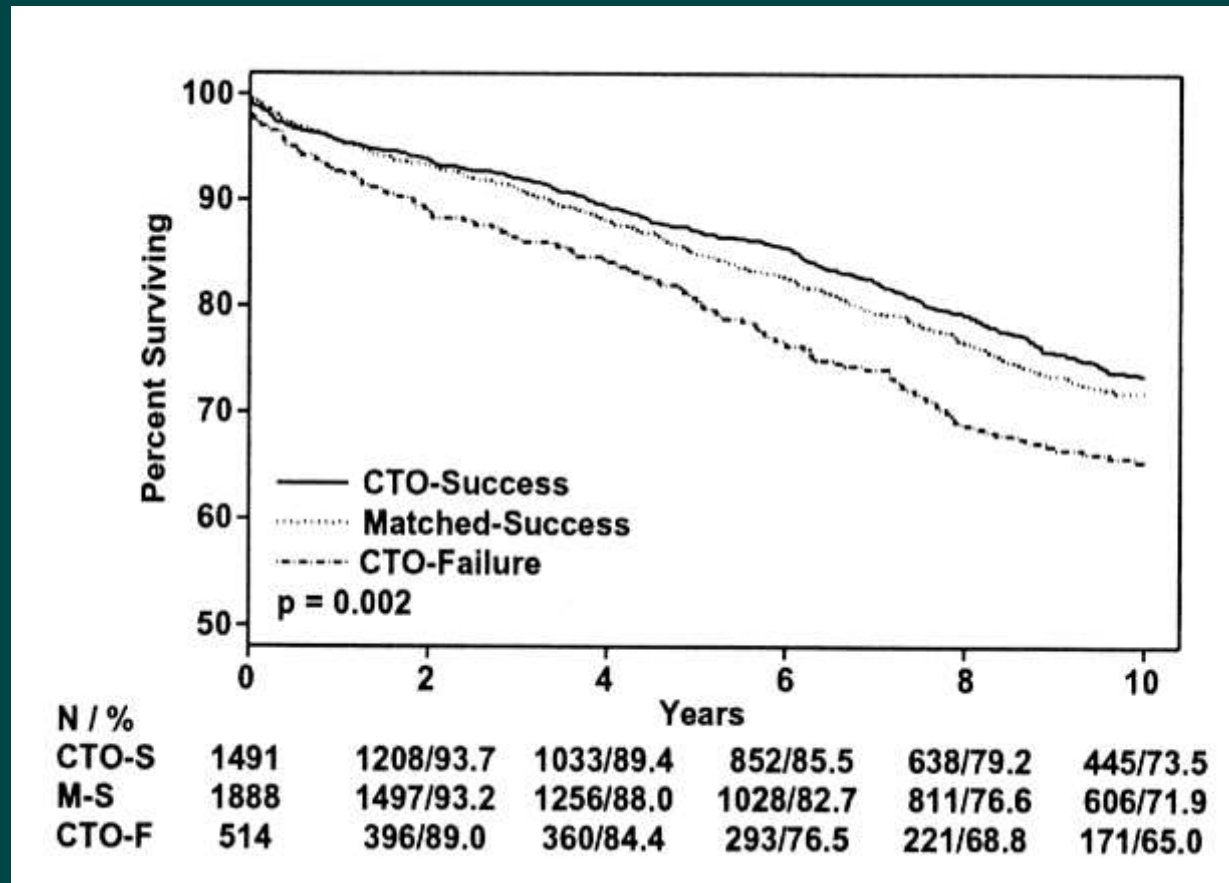
# Outcomes of LAD vs. Non-LAD CTO: Different or Not


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- Successful recanalization of CTO by PCI is associated with better symptom relief, lower risk of subsequent myocardial infarction, and better long-term survival when compared with unsuccessful PCI.



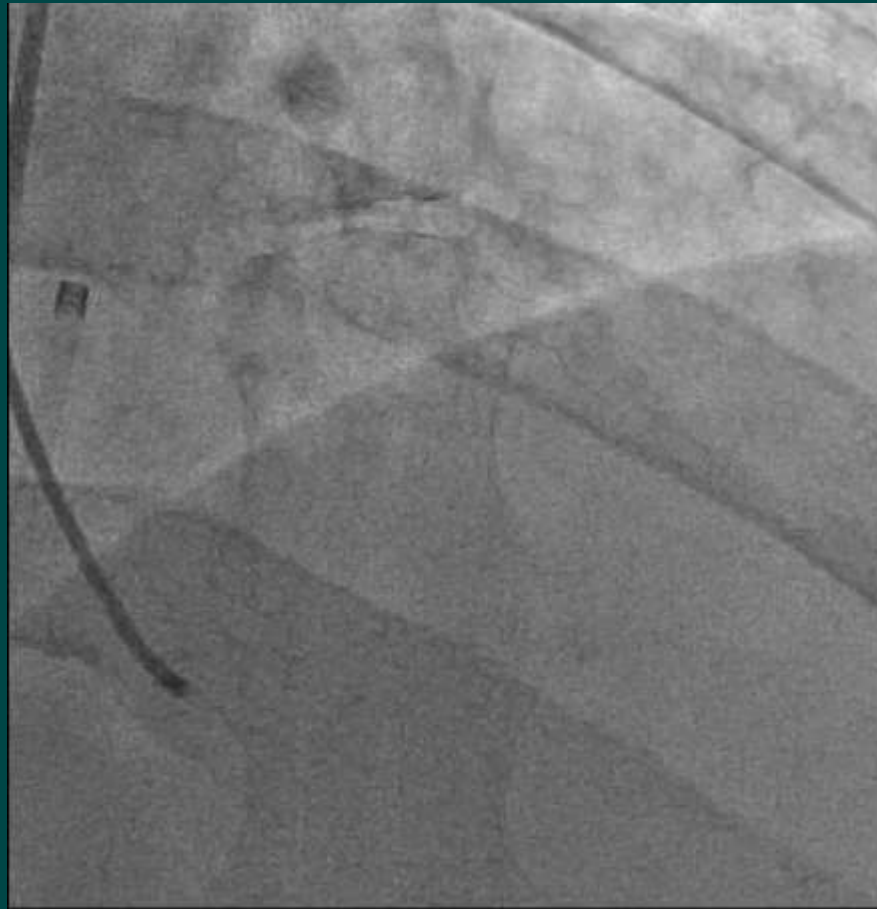
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- ◆ Successful recanalization of CTO by PCI is associated with better symptom relief, lower risk of subsequent myocardial infarction, and better long-term survival when compared with unsuccessful PCI.
  - ◆ However, the potential for differential benefit of CTO recanalization depending on the target vessel (e.g. LAD or not) is well unknown.

# Angiographic feature of LAD CTO



- ◆ Occlusion Length: relatively short
- ◆ Vessel size: generally large
- ◆ Vessel shape: relatively straight
- ◆ Involvement of side branch: LCX, diagonal branch

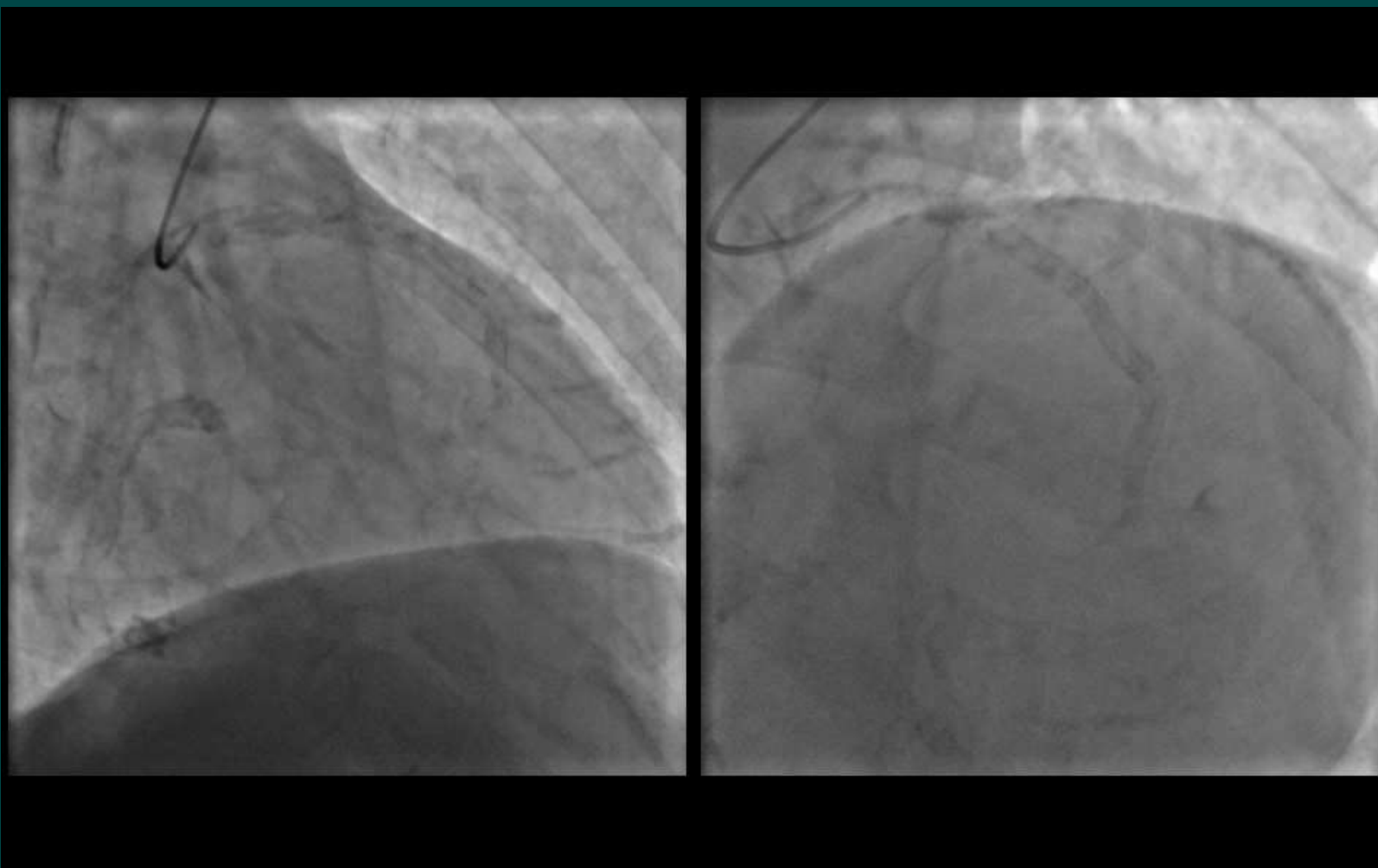
# Typical LAD CTO



# RCA CTO case



# RCA CTO case







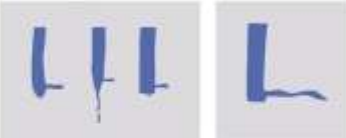

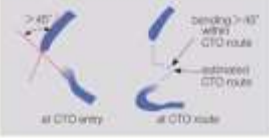
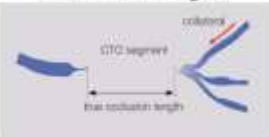
# 1. About procedural success of CTO PCI



# J-CTO score can predict success rate of CTO PCI

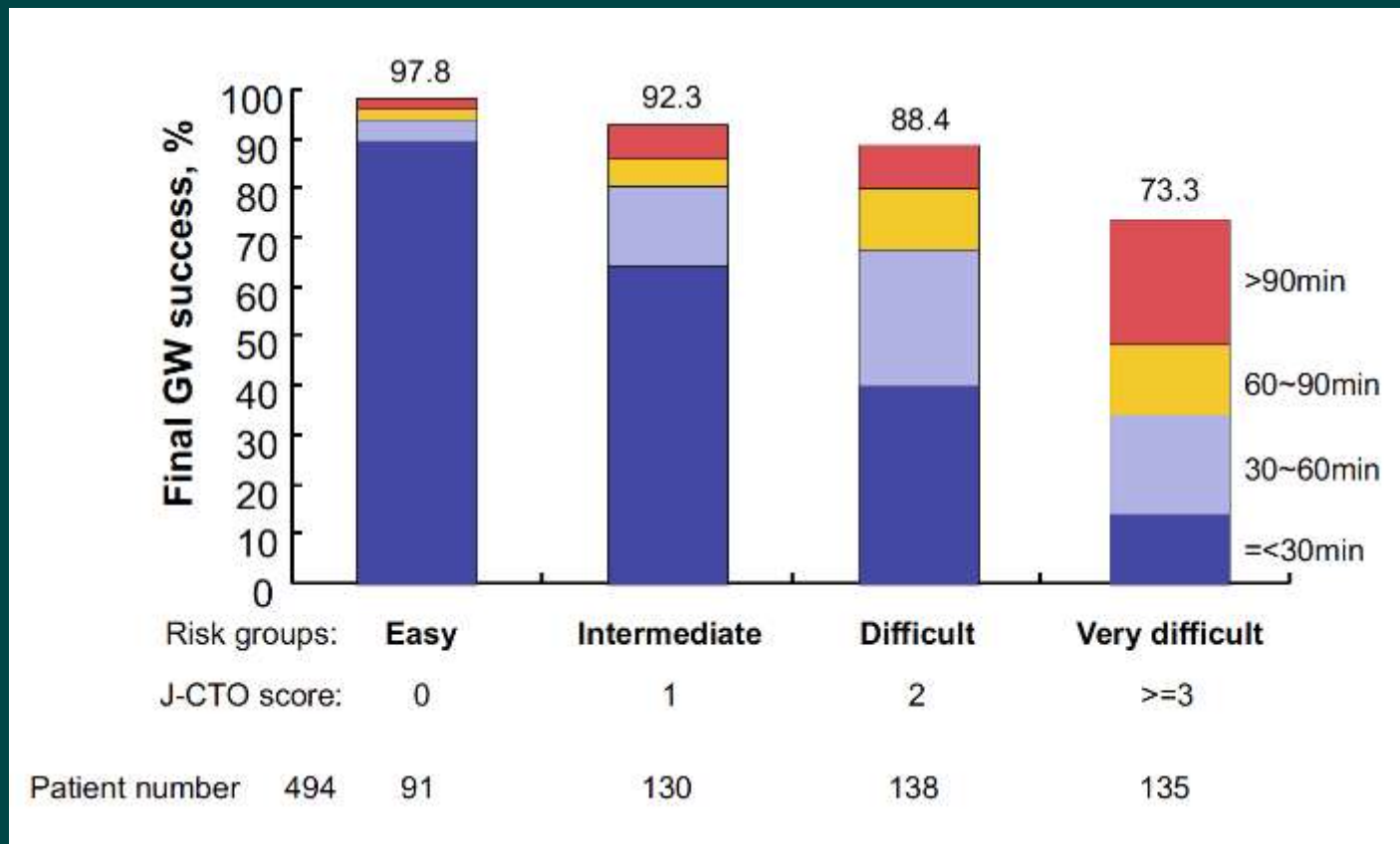
## Multicenter CTO Registry in Japan



J-CTO SCORE SHEET		Version 1.0
<b>Variables and definitions</b>		
<b>Tapered</b>	<b>Blunt</b>	
	Entry with any tapered tip or dimple indicating direction of true lumen is categorized as "tapered".	<b>Entry shape</b> <input type="checkbox"/> Tapered (0) <input type="checkbox"/> Blunt (1)
		point
<b>Calcification</b>		
	Regardless of severity, 1 point is assigned if any evident calcification is detected within the CTO segment.	<b>Calcification</b> <input type="checkbox"/> Absence (0) <input type="checkbox"/> Presence (1)
		point
<b>Bending &gt; 45degrees</b>		
	One point is assigned if bending > 45 degrees is detected within the CTO segment. Any tortuosity separated from the CTO segment is excluded from this assessment.	<b>Bending &gt; 45°</b> <input type="checkbox"/> Absence (0) <input type="checkbox"/> Presence (1)
		point
<b>Occlusion length</b>		
	Using good collateral images, try to measure "true" distance of occlusion, which tends to be shorter than the first impression.	<b>Occl.Length</b> <input type="checkbox"/> < 20mm (0) <input type="checkbox"/> ≥ 20mm (1)
		point
<b>Re-try lesion</b>		
Is this Re-try (2 <sup>nd</sup> attempt) lesion? (previously attempted but failed)		<b>Re-try lesion</b> <input type="checkbox"/> No (0) <input type="checkbox"/> Yes (1)
		point
Category of difficulty (total point) <input type="checkbox"/> easy (0) <input type="checkbox"/> intermediate (1) <input type="checkbox"/> difficult (2) <input type="checkbox"/> very difficult (≥3)		<b>Total</b> <div style="background-color: #ccc; width: 20px; height: 20px; display: inline-block;"></div> points

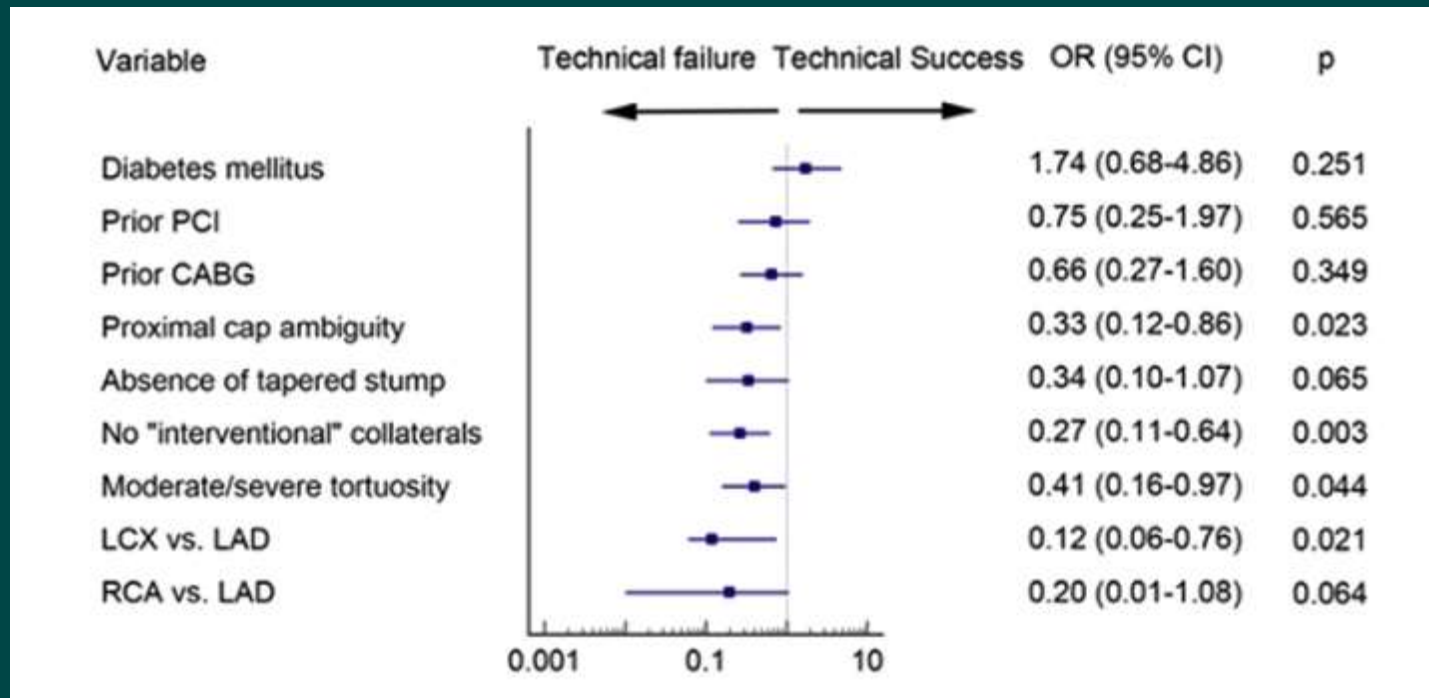
# J-CTO score can predict success rate of CTO PCI

## Multicenter CTO Registry in Japan



# PCI success rate in LAD CTO is lower than non-LAD CTO

## Insights From a Multicenter US Registry



# Independent predictors on retrograde procedure success

Japanese multicenter registry evaluating the retrograde approach for chronic coronary total occlusion.

**TABLE VI. Independent Predictors on Retrograde Procedure Success**

Parameter	Univariate analysis			Multivariate analysis		
	Odds ratio	95% CI	<i>P</i> value	Odds ratio	95% CI	<i>P</i> value
Age >65-years-old	0.607	0.443–0.833	0.0017	0.609	0.441–0.840	0.0023
Target vessel-RCA	1.422	1.042–1.940	0.027	1.374	0.826–2.284	0.23
Target vessel-LAD	0.677	0.485–0.945	0.023	0.930	0.539–1.604	0.79
Lesion calcification	0.691	0.504–0.946	0.020	0.654	0.474–0.904	0.0094
Channel dilator use	1.731	1.259–2.379	0.0008	1.759	1.270–2.438	0.0007

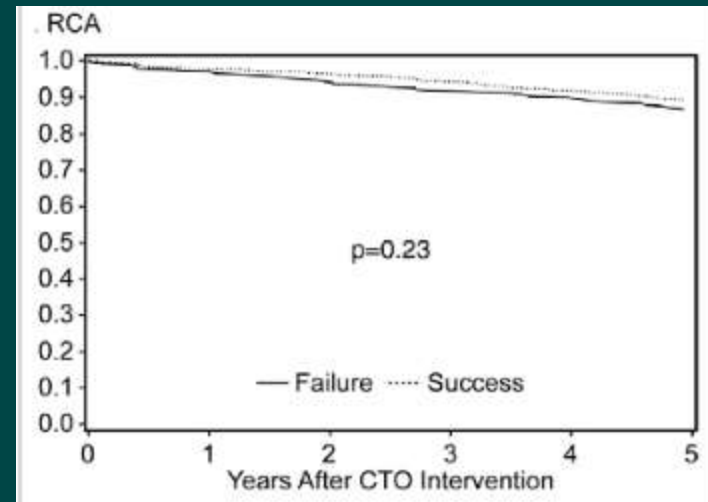
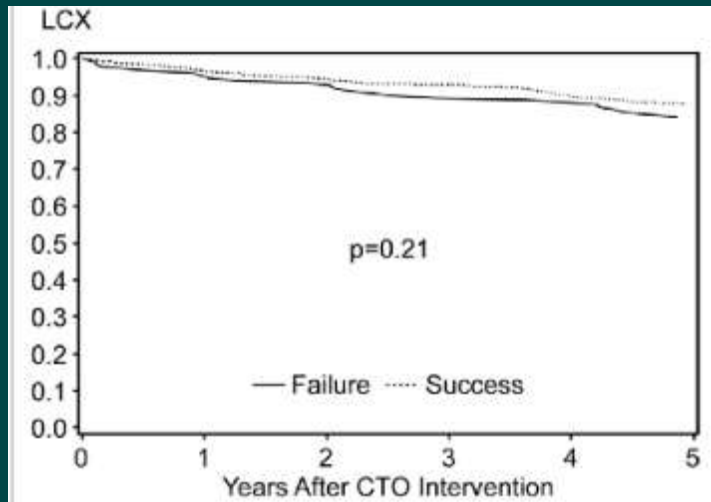
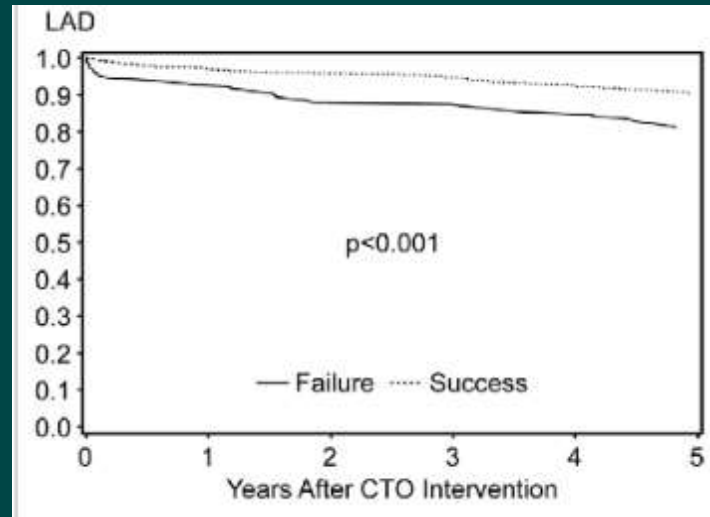
CI: confidence interval; LAD: left anterior descending artery; RCA: right coronary artery.



## 2. Long term outcome of CTO PCI

# Survival following successful versus failed CTO PCI

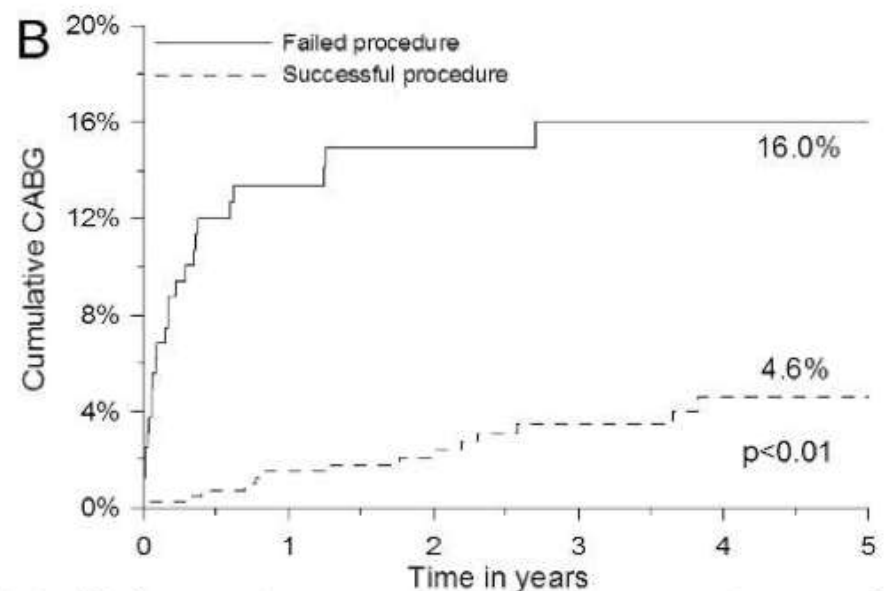
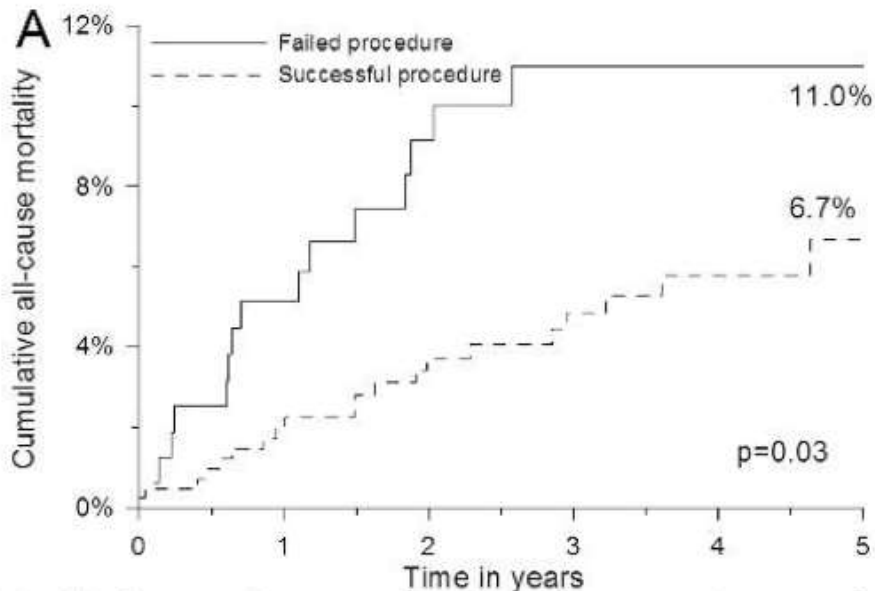
## Long term outcome of CTO PCI





# All cause mortality and the need for CABG after CTO PCI

## LAD CTO



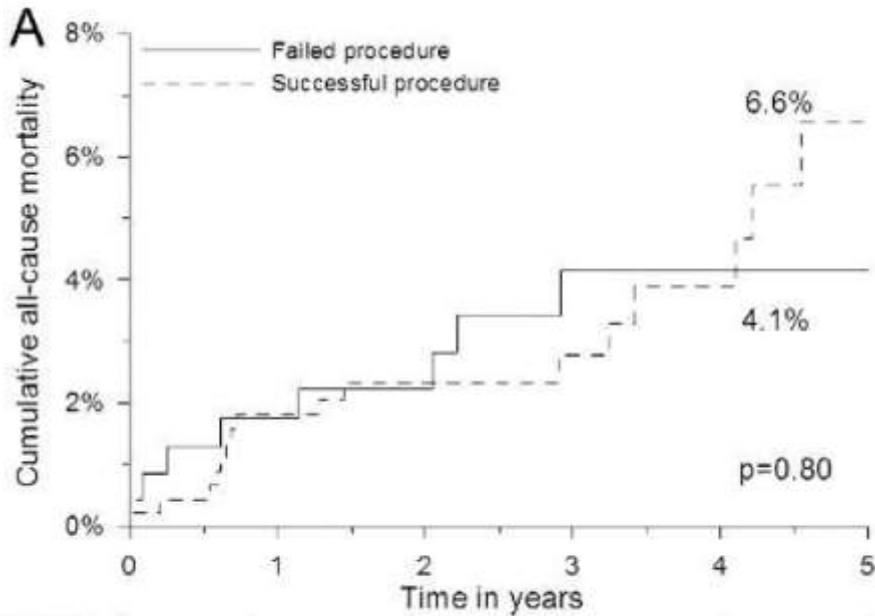
Numbers at risk	0	1	2	3	4	5
Failed PCI	176	136	106	84	73	50
Successful PCI	433	372	315	231	154	93

Numbers at risk	0	1	2	3	4	5
Failed PCI	176	121	92	70	61	44
Successful PCI	433	368	309	224	146	87

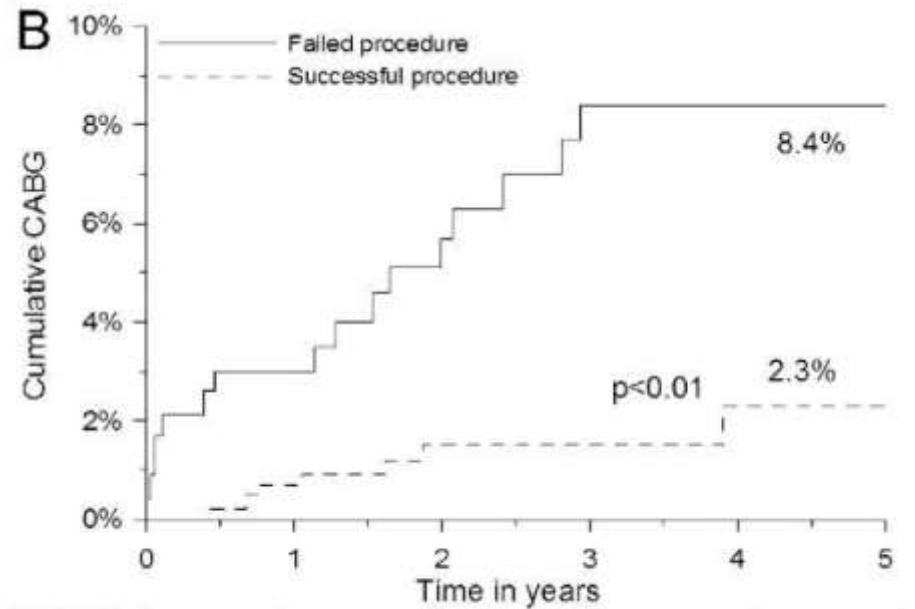


# All cause mortality and the need for CABG after CTO PCI

## RCA CTO

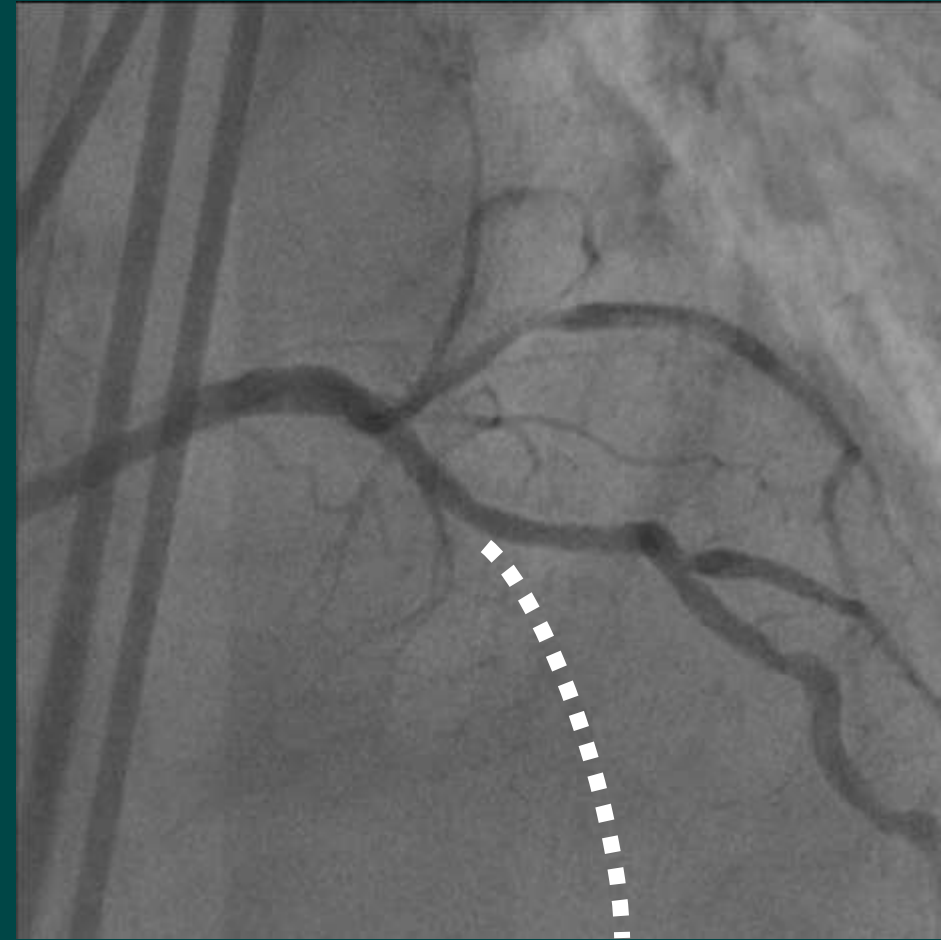


Numbers at risk	0	1	2	3	4	5
Failed PCI	256	206	169	128	97	57
Successful PCI	478	418	349	205	124	77



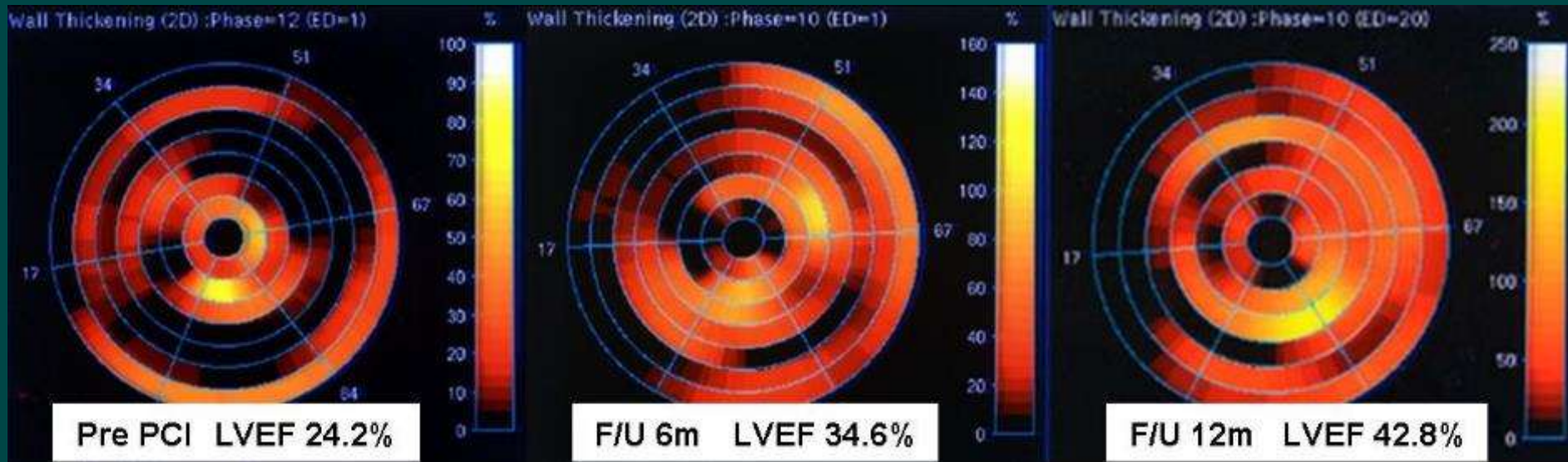
Numbers at risk	0	1	2	3	4	5
Failed PCI	256	201	162	120	82	54
Successful PCI	478	415	343	203	122	76

# LAD CTO case (1)



# LAD CTO case (1)

Improving of cardiac function for long term period



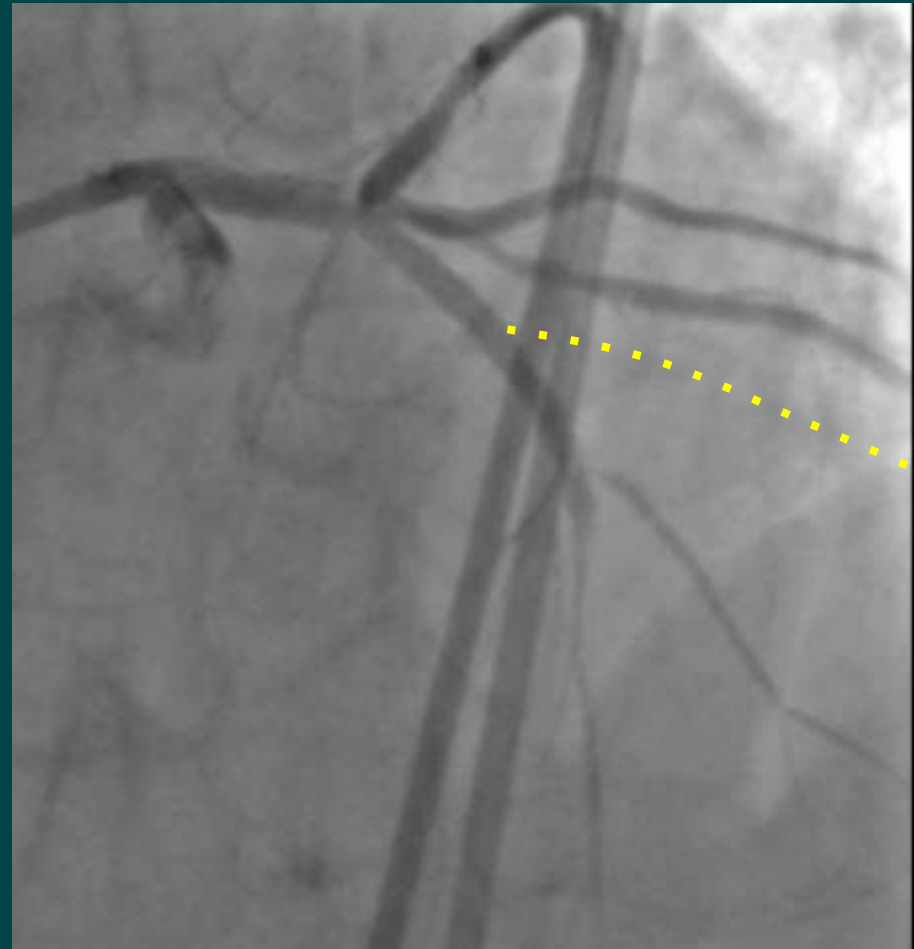
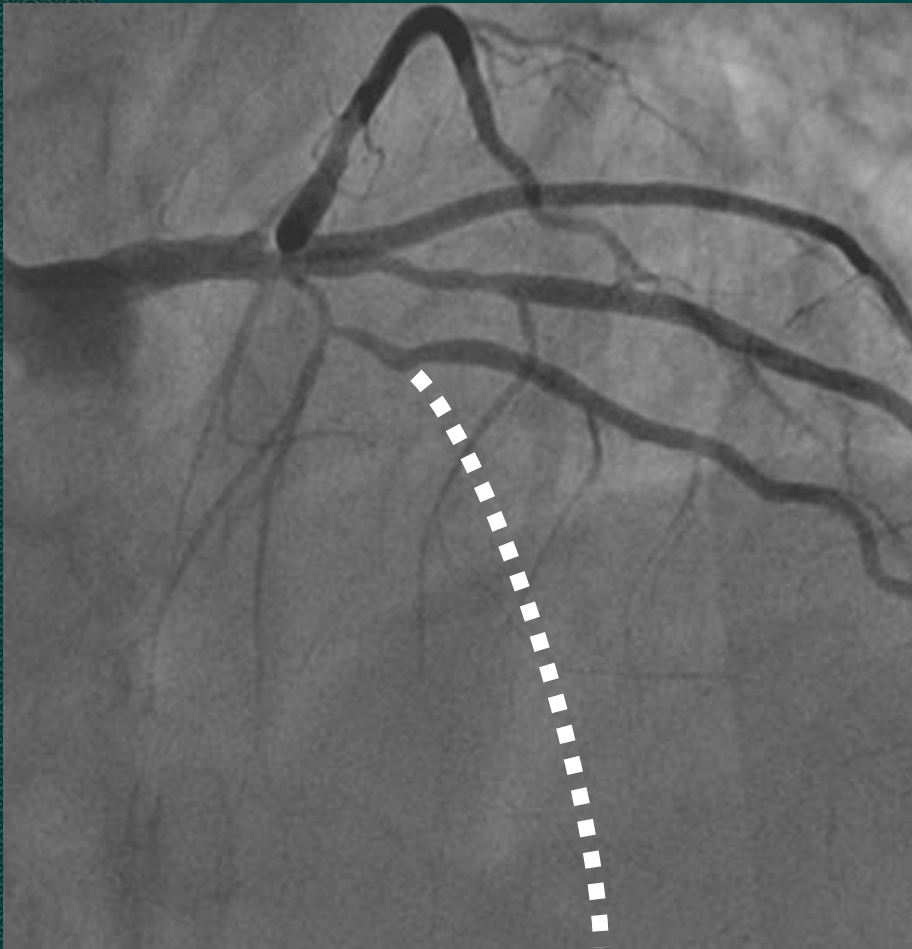
MRI: Signa CV 1.5T, GE healthcare

MASS record, GE healthcare

# LAD CTO case (2)

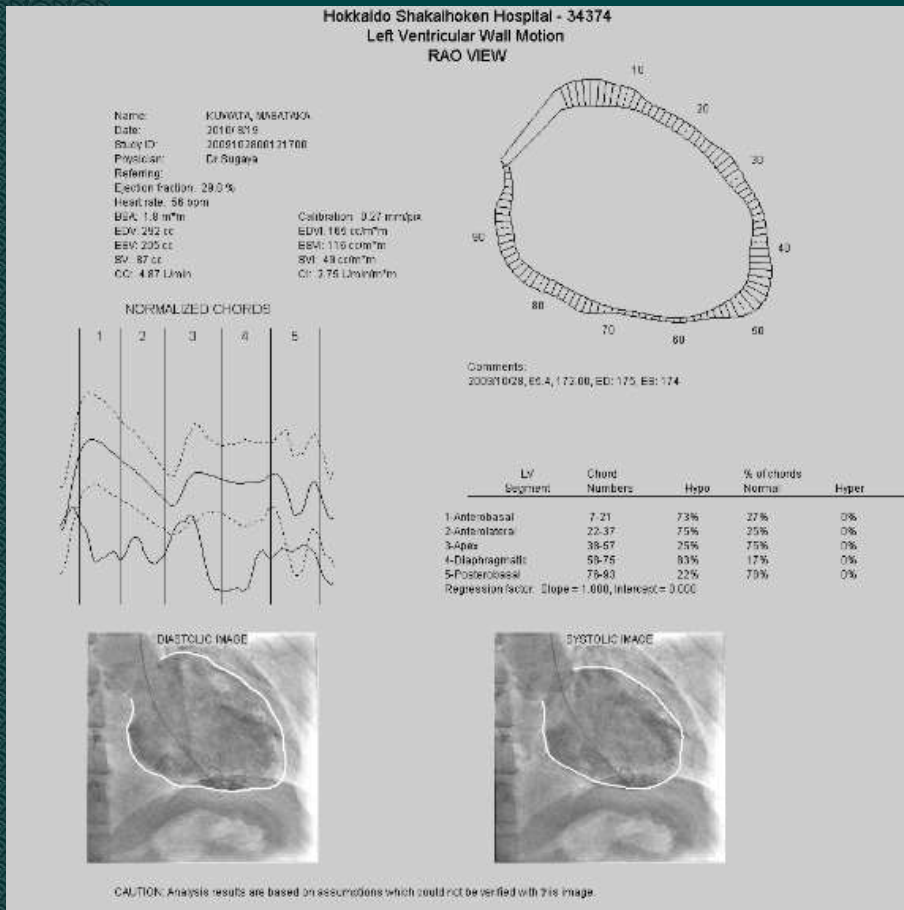


Successful stent in LAD but no flow in diagonal branch.

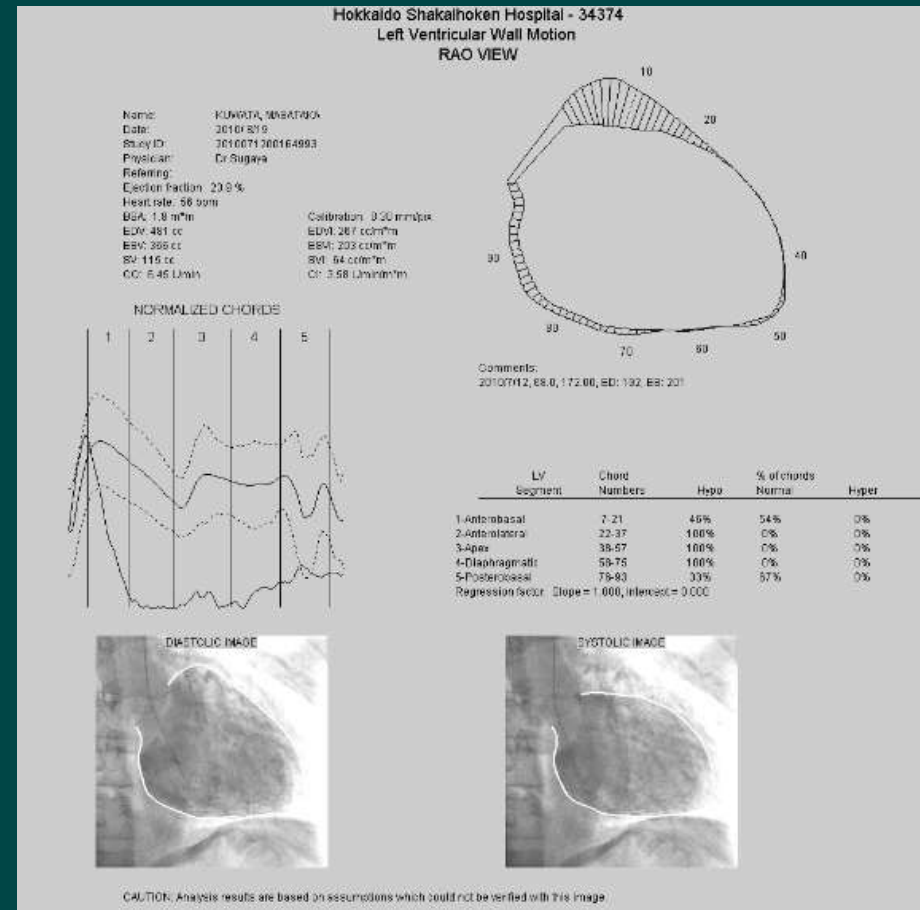


# LAD CTO case (2)

Successful stent in LAD but no flow in diagonal branch.



Pre LVG  
EF 35.7%, EDV 292 cc



1-year f/u LVG  
EF 25.5 %, EDV 381 cc



# Summary



- ◆ Procedural success rate in LAD CTO PCI is higher than other vessel CTO PCI.
- ◆ Successful CTO PCI is associated with an improvement in long-term survival as compared to CTO PCI failure in LAD CTO.

Thank you for your attention.