Nano-Crush in Left Main

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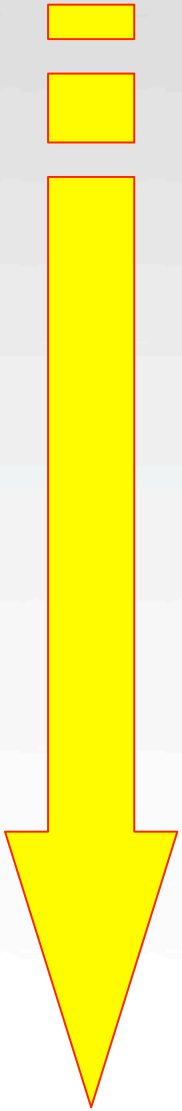
Nano-crush facts



2014 : conceiving the technique and first application of the technique in LM and non-LM patients

2015 : application in shock patients

2017 : publication first preliminary series in Cardiovasc Revasc Med

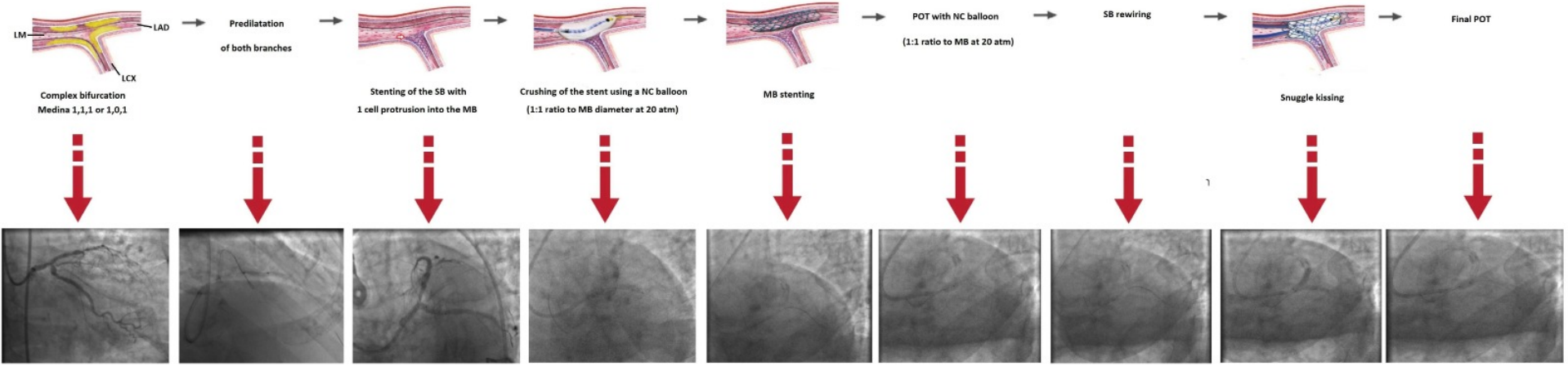
2018 : publication of bench and computational fluid dynamic study in Cathet Cardiovasc Interv

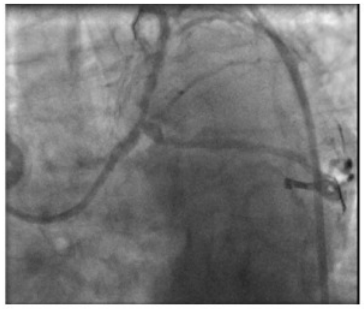
2019 : Nano-Crush in Left main and cardiogenic shock in Cardiovasc Revasc Med

2019 : comparison between Nano-Crush and Culotte in Left main in Int J Cardiovasc Imag

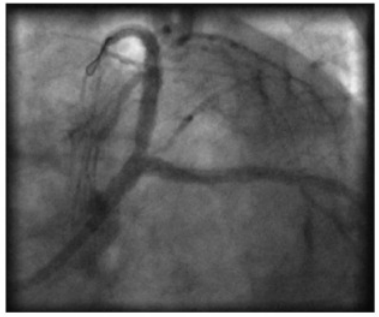
The Technique

NANO CRUSH

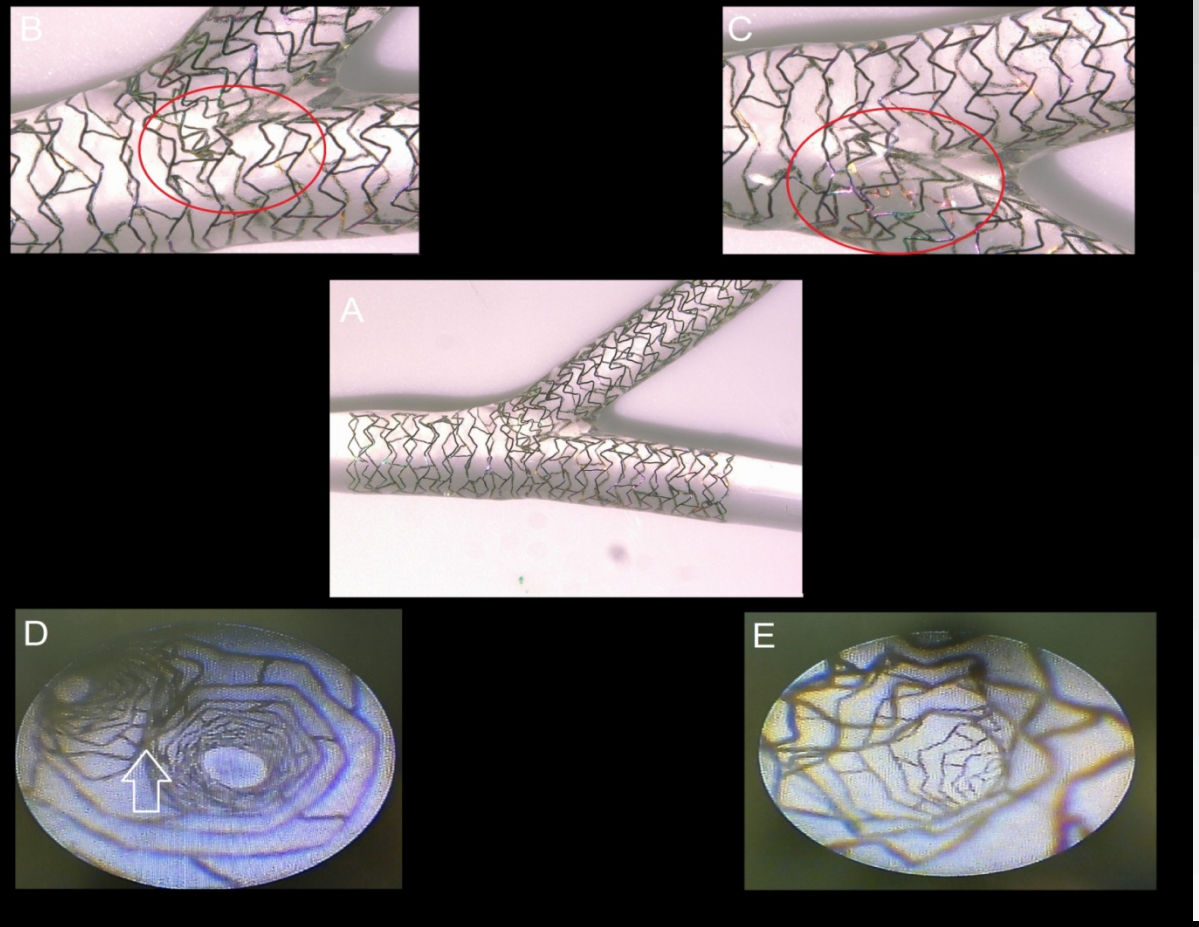


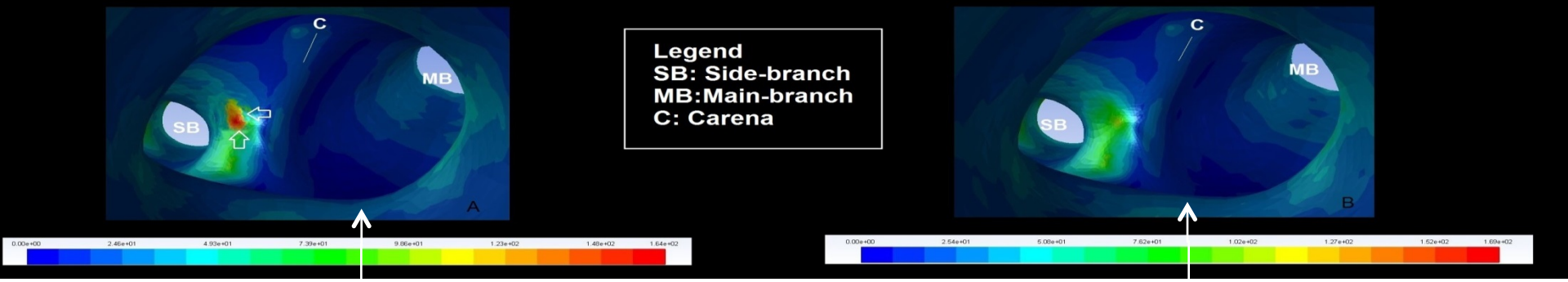


Diagnostic run



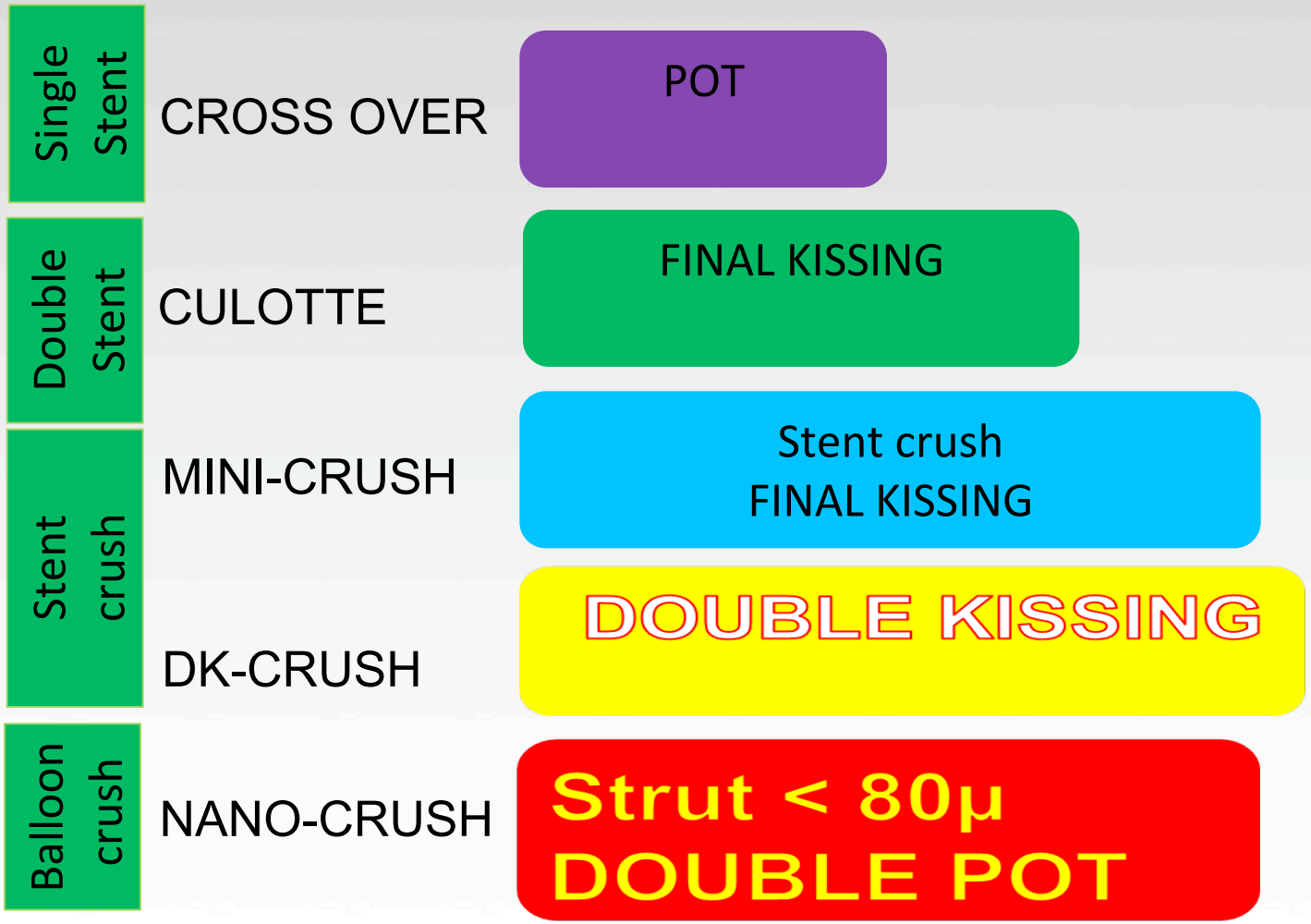
After Nano Crush stenting





Nano-Crush **Cross over**

Differences with others



Rovigo Complex Left main bifurcation 2016-2019

Demographic and clinic in brief

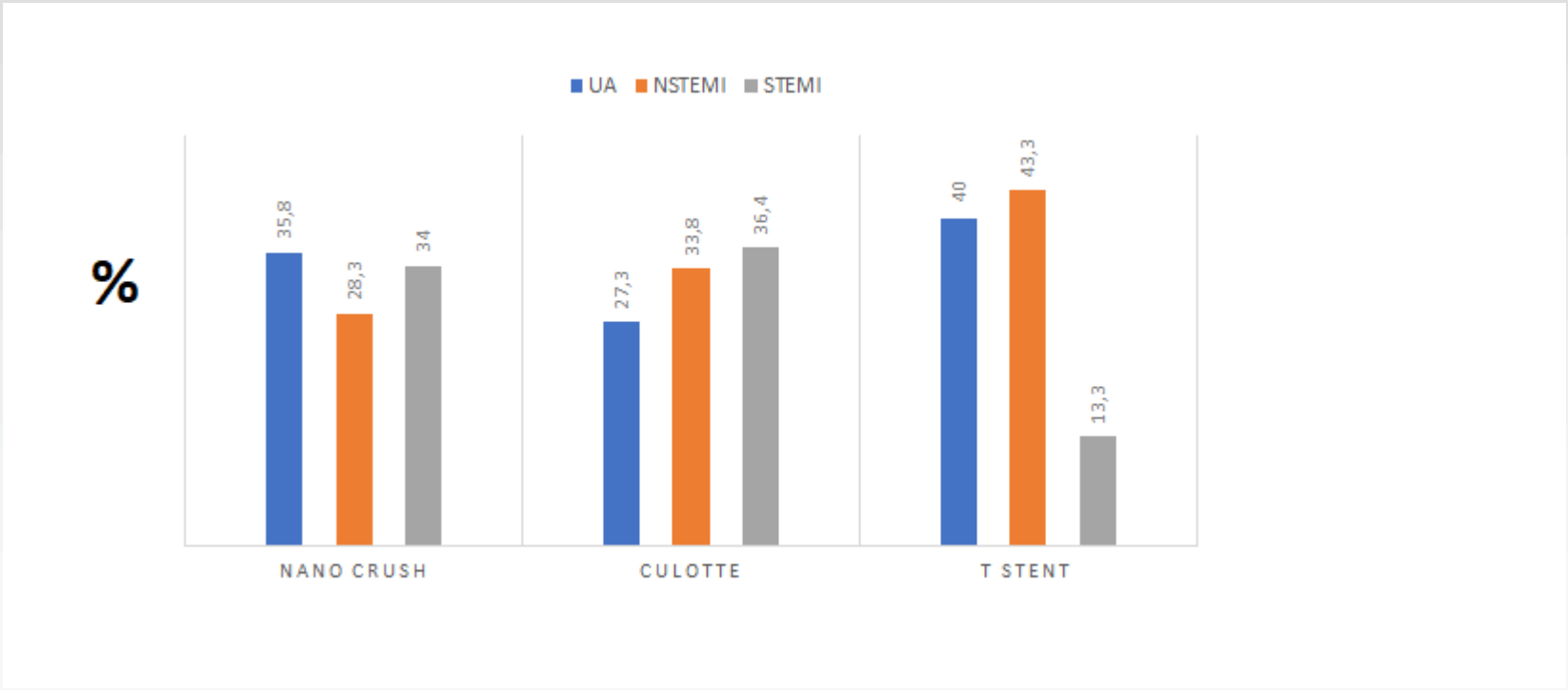
	Nano Crush N=106	Culotte N=77	T stent N=30	p Anova
Age (years)	67.2±14.0	64.6±12.4	64.9±15.06	0.40
Gender (male)	56 (52.8)	40 (51.9)	14 (46.6)	0.09
Dyslipidaemia (%)	42 (39.6)	35 (45.5)	16 (53.3)	0.003
Diabetes (%)	24 (22.6)	19 (24.7)	11 (36.7)	0.09
Previoius AMI (%)	26 (24.5)	15 (19.5)	7 (23.3)	0.003
Basal LVEF (%)	55.1±10.4	57.0±12.2	57.6±9.7	0.43
Cardiogenic shock	19 (17.9)	14 (18.2)	2 (6.7)	

Rovigo Complex Left main bifurcation 2016-2019

Angiographic characteristics in brief

	Nano Crush N=106	Culotte N=77	T stent N=30	p Anova
Basal MLD (mm)	2.4±1.7	2.4±1.2	2.4±0.8	0.98
Post-dilatation MLD (mm)	4.0±1.6	4.0±0.9	4.0±0.5	0.96
Stenosis (%)	83.6±8.5	83.8±8.8	83.7±7.9	0.87
Lesion lenght (mm)	9.3±1.4	9.5±1.2	9.4±1.3	0.77
Medina 1,1,1	47 (44.3)	39 (50.6)	19 (63.3)	0.12
Medina 0,1,1	59 (55.7)	38 (49.4)	11 (36.7)	0.10

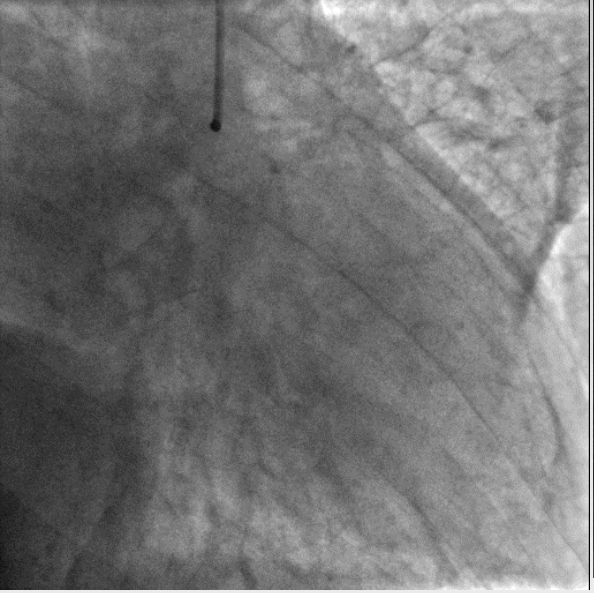
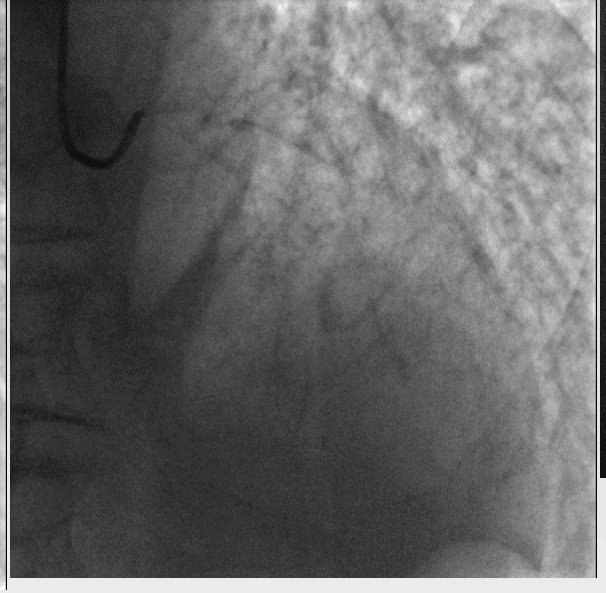
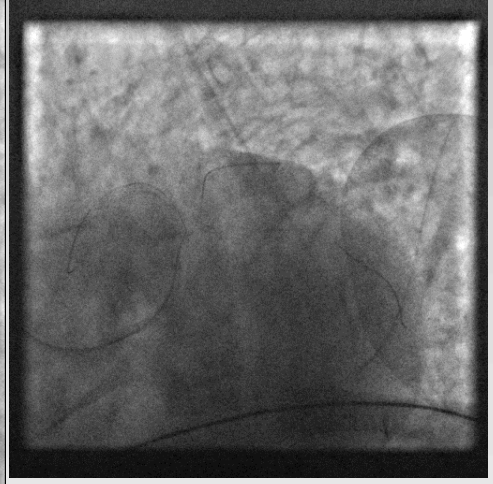
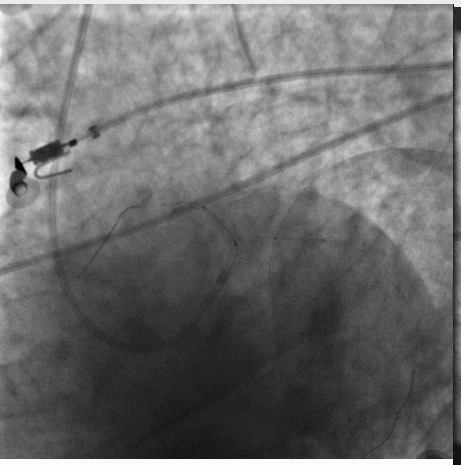
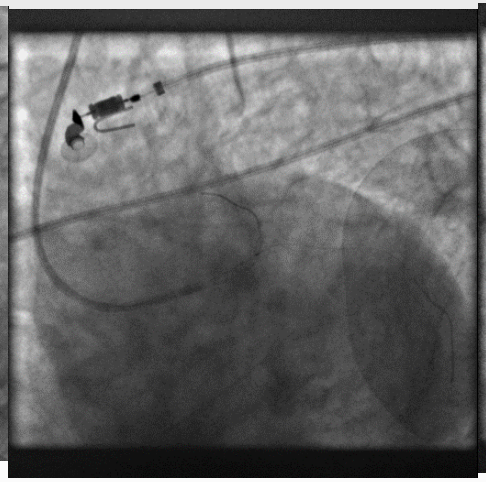
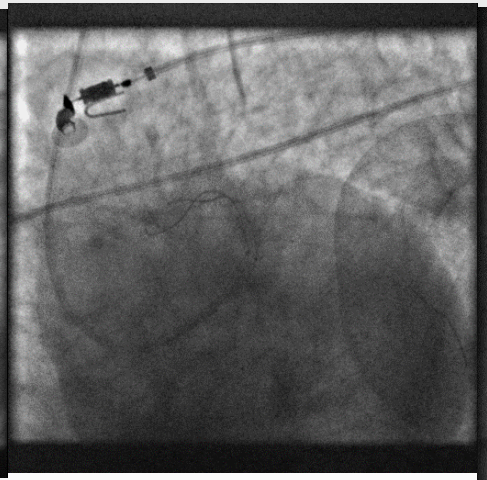
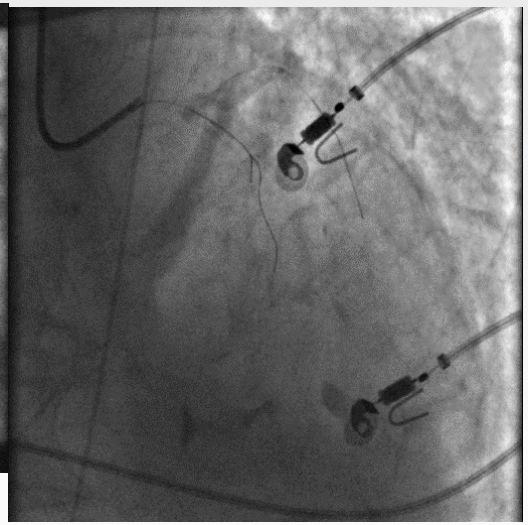
Clinical presentation



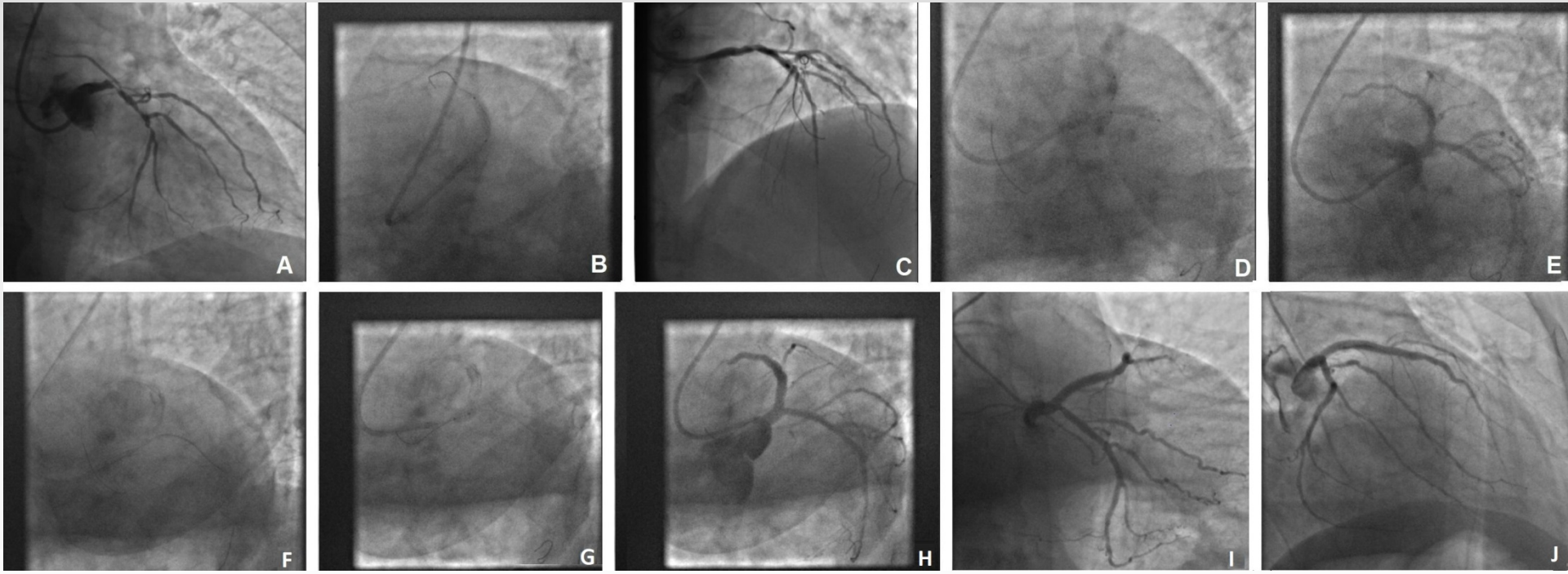
Population

	% or mean ±DS
Three-vessel disease	80.4
LM lesion location	
Ostial	20.8
Body shaft	39.2
Distal LM	100.0
Trifurcation	15.6
Calcification *	42
Moderate	18.8
Severe	21.2
Chronic total occlusion	22.8
LM	0.4
LAD	6.8
LCx	2.8
RCA	12.8
TIMI flow grade <3	
Main vessel	8.8
Side branch	10.8
Complex bifurcation	100
SINTAX	31.6±6.3

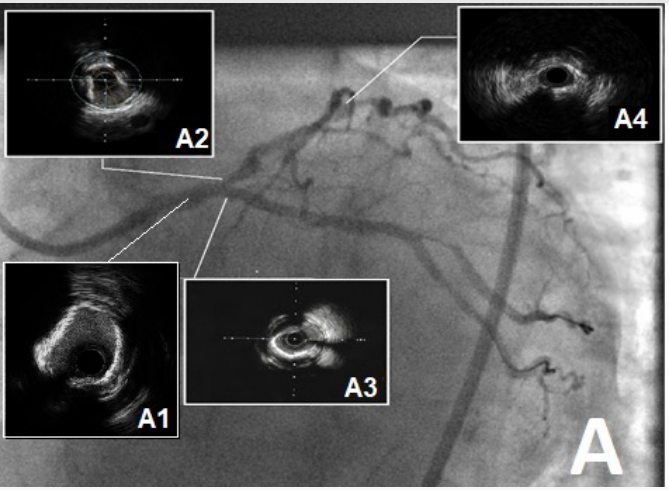
Angiographic charactristics

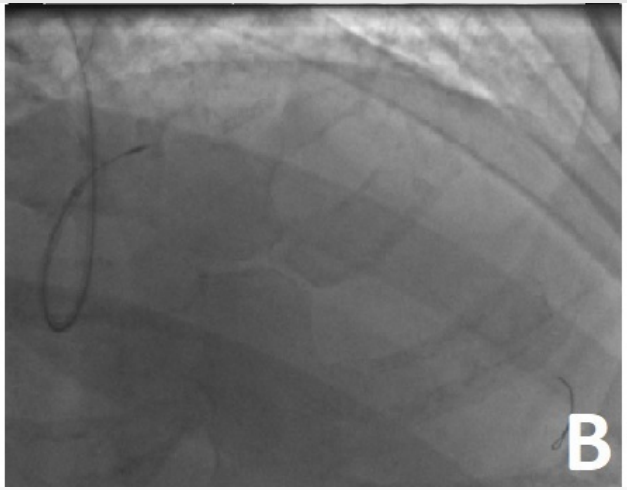








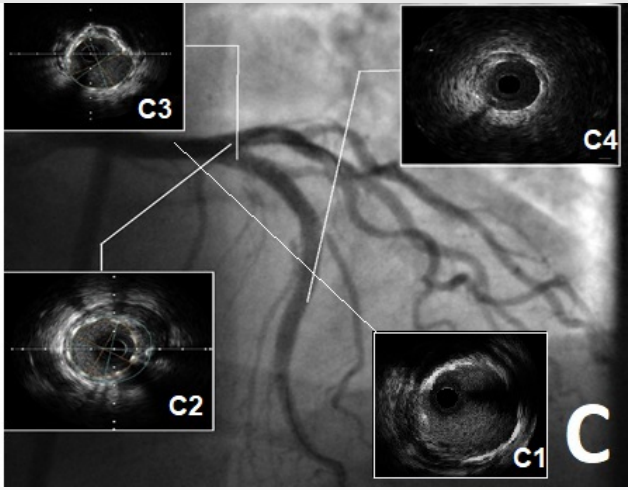
Clinical case 1: female ,74 yr, NSTEMI, IRC III



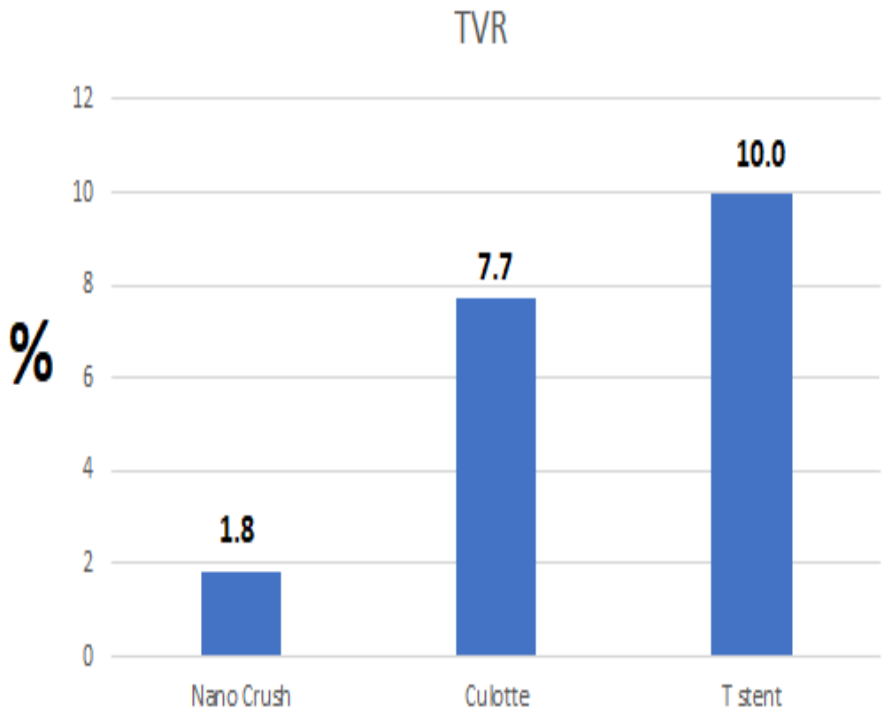
Clinical case 2: male ,80 yr, NSTEMI, EUROSCORE II 28.8







OUTCOMES


TVR
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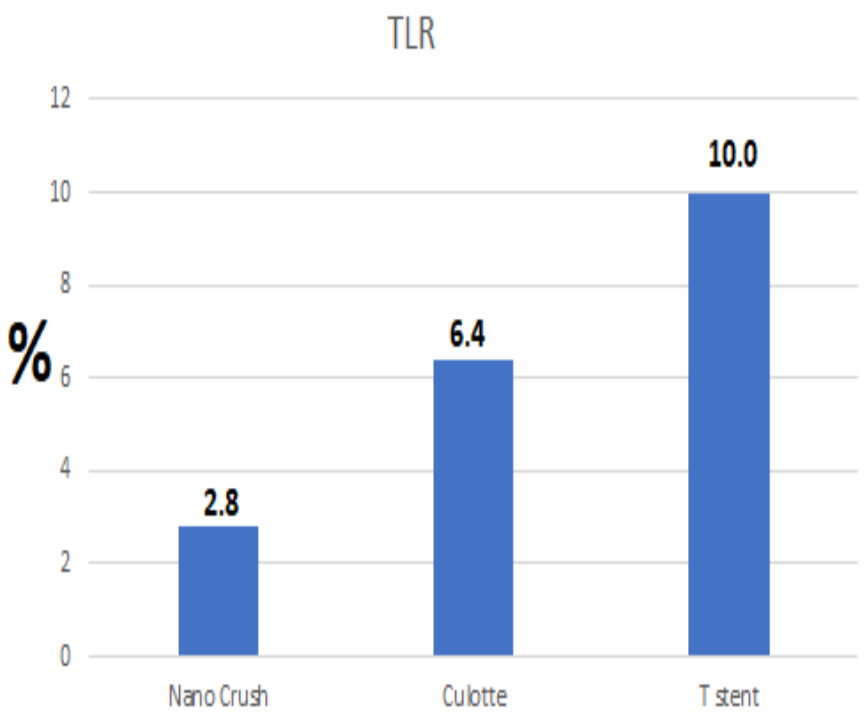
Nano Crush
Culotte
T stent


TLR
%
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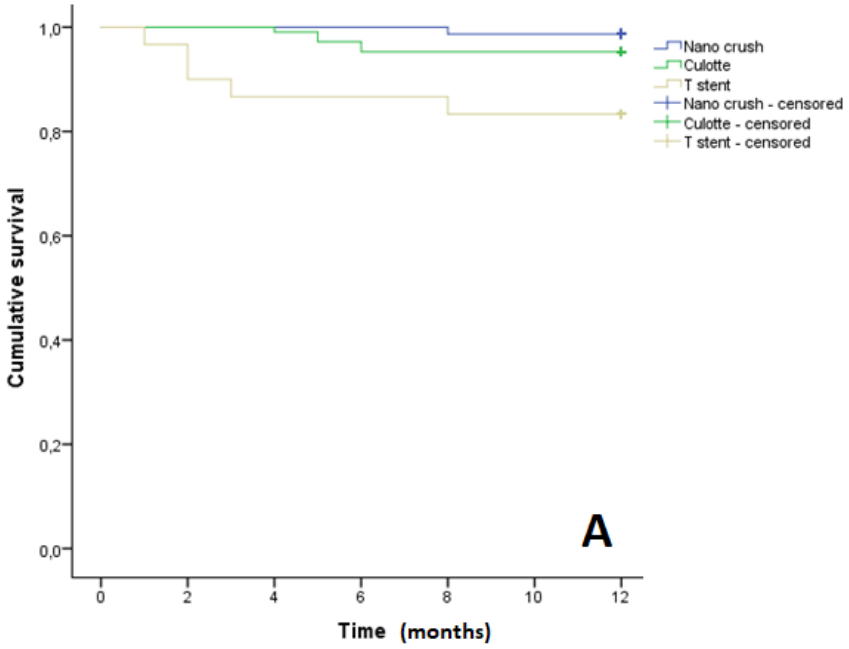
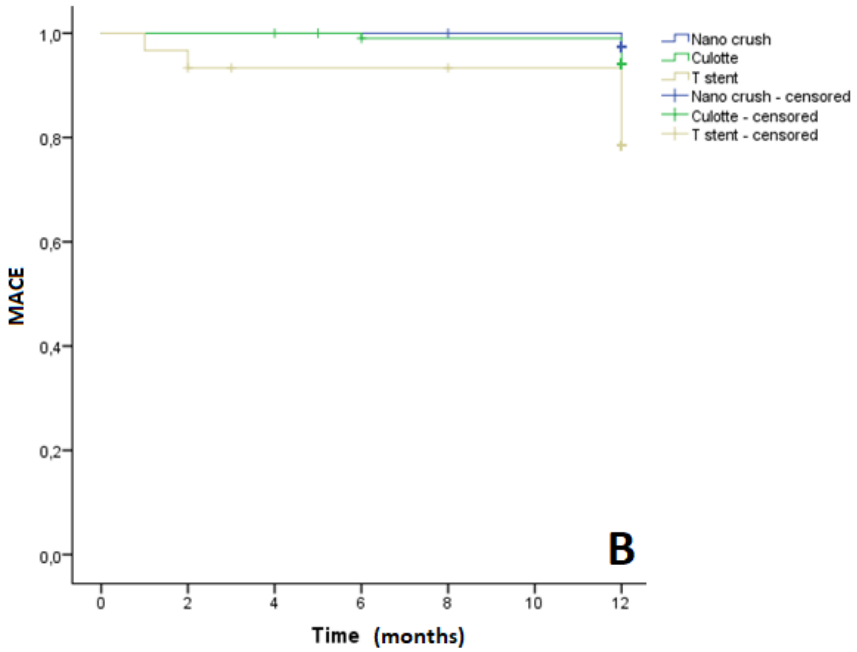
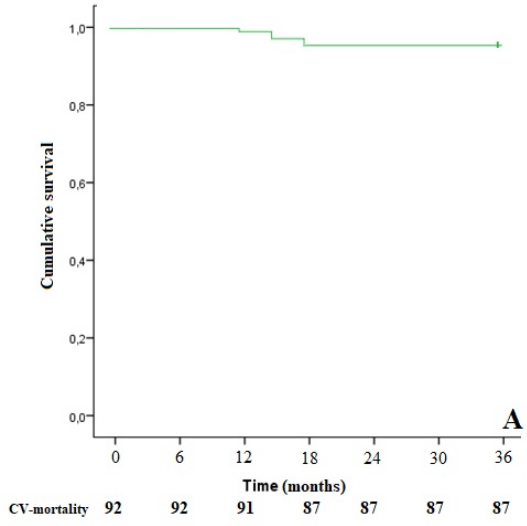
2.8
6.4
10.0
Nano Crush
Culotte
T stent

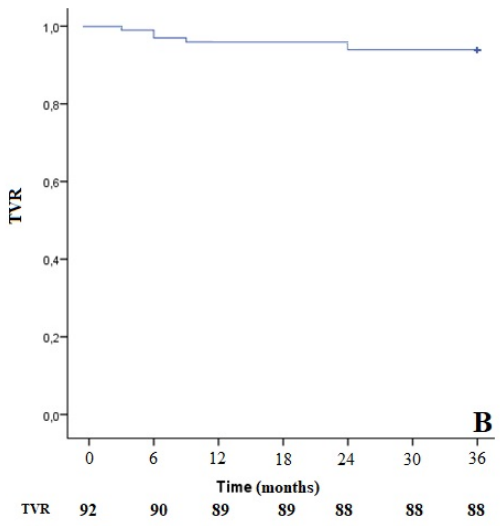
3-yr survival

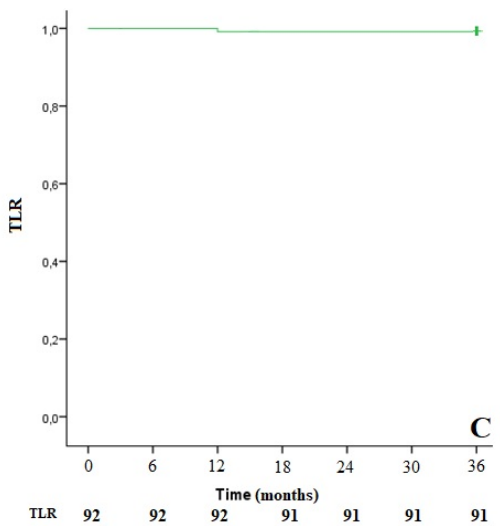




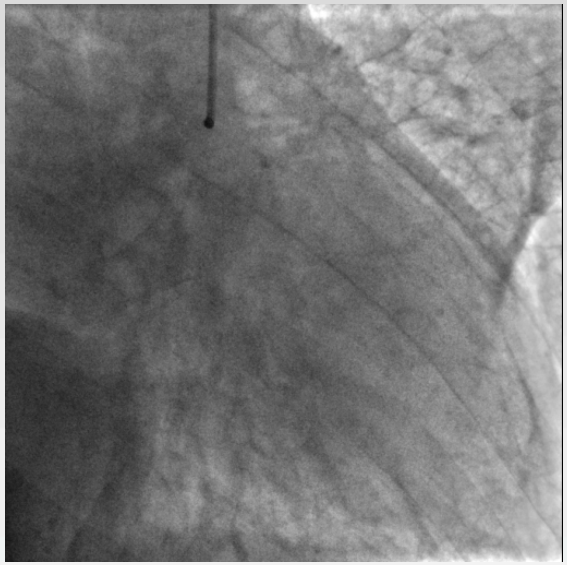
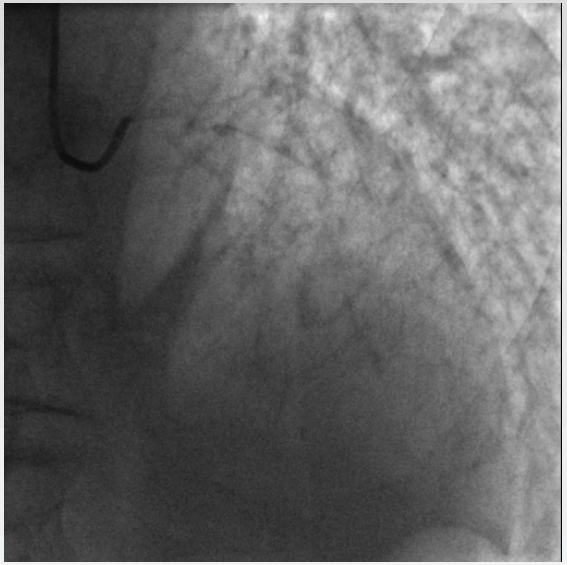
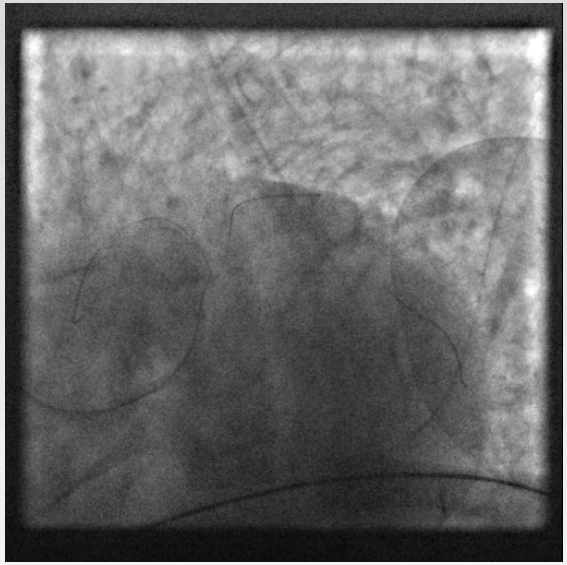
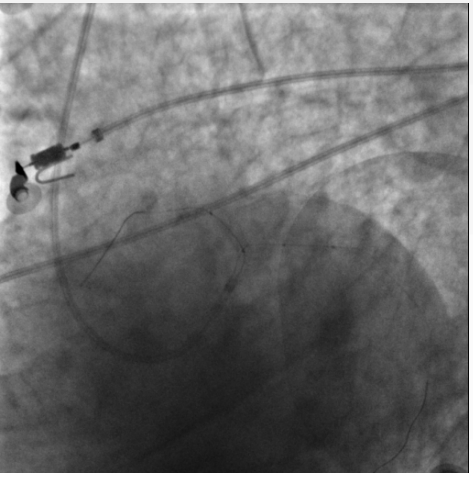
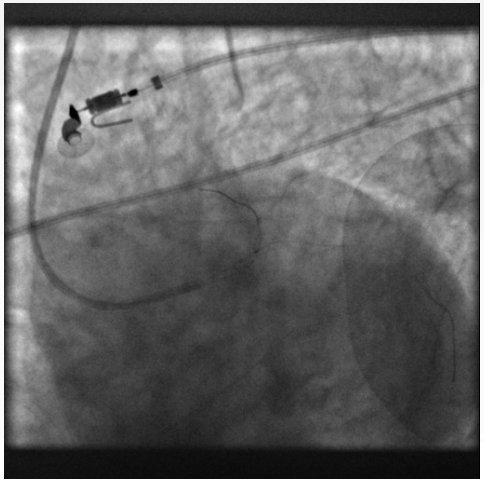
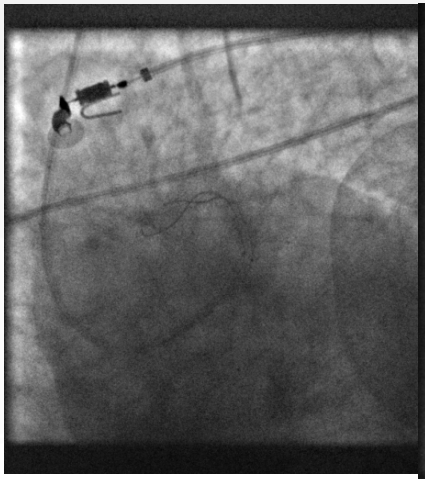
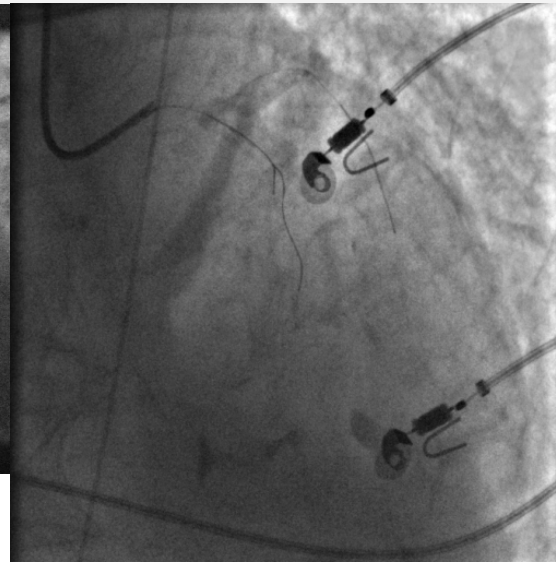
Nano crush alone







Clinical case 2: male ,79 yr, NSTEMI, IRC III, BPCO, Rutherford III

Conclusion

Nano-crush stenting in Left Main showed improved long-term outcomes with low TVF, low mortality and 0% thrombosis compared to other double stent techniques

Nano-crush stenting in Left Main provided easy and fast revascularization, low X-ray exposure and low contrast dose

Nano-crush stenting can be an alternative to DK-crush in complex Left Main bifurcation disease