Is Rotational atherectomy Adequate for recalcitrant calcific lesions?

Dr. Chang Sau Kong

Consultant Cardiologist,
Penang Adventist Hospital
Penang
Malaysia

Clinical history..

- Madam T has ischemic heart disease since 2001, with PCI in

a) 2003(LAD) and

b) 2016 (2 stents in the RCA)

- Her risk factors include hyperlipidemia

and hypertension

- She has worsening angina on effort past 2 mont hs but denies any symptoms of heart failure

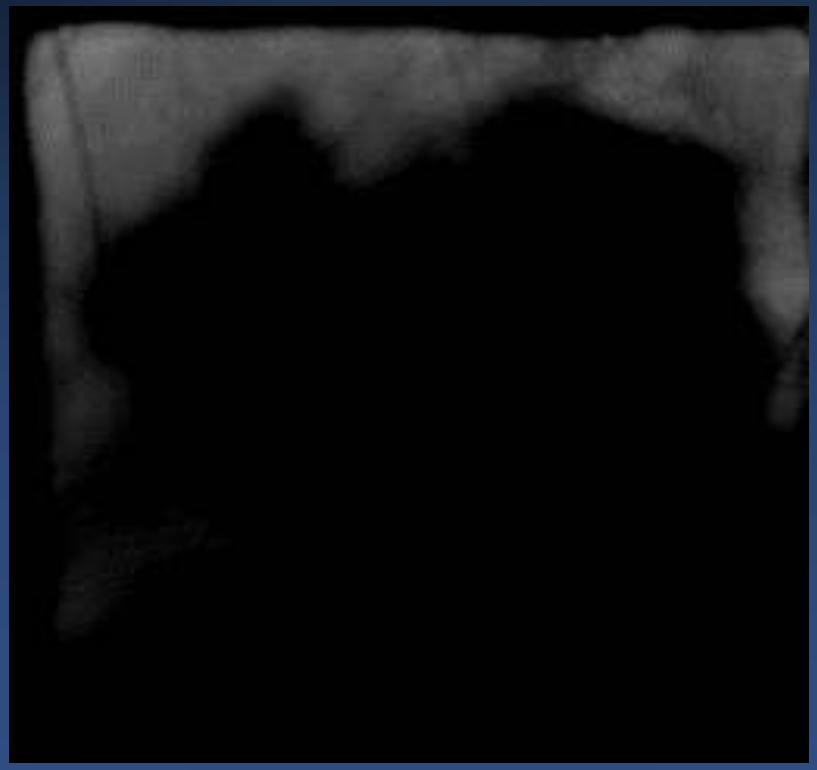
Relevant investigations

- Resting 12 lead ECG showed evidence of LVH with repolarisation abnormalities.
- Her LV ejection fraction is preserved.
- Renal function is within normal limits
- As she remained symptomatic inspite of optimal medical treatment, she was plan ned for early coronary angiogram

Diagnostic coronary angio..

Relevant catheterization findings

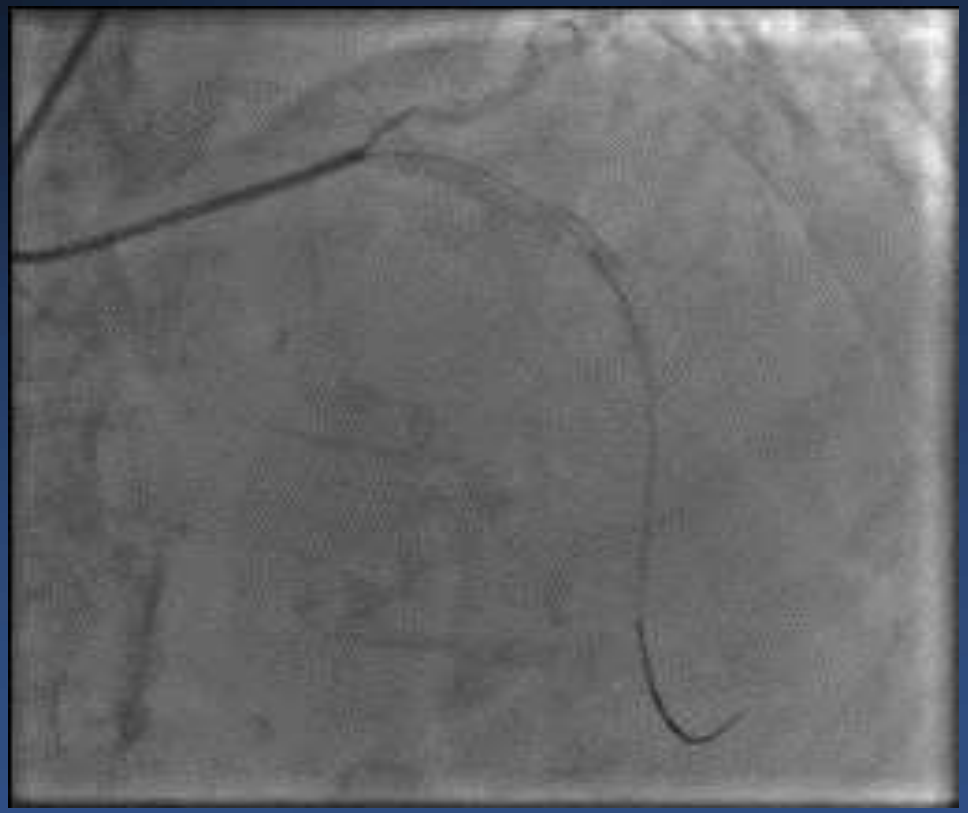
- left main stem: mild disease
- LAD: significant in stent restenoses proxi mally stent in LAD, 95% calcific stenoses proximal to the stent (CULPRIT LESION)
- LCX: non dominant with diffuse disease d istally
- RCA: patent stents with mild disease dist ally



Not so straight forward??...

- Right Radial Approach 6F sheath,
- 6F IKR 4.0(sat well) , Runthrough Floppy X 2
- Heparin 7K (no issues with access)
- Serial predilatation with NC balloons, i.e. Sapphire NC 3.0X12mm, Accuforce 3.0X8 mm, ***undilatable lesion*** just proximal to t he previous stent

Undilatable…..



Rotational atherectomy?

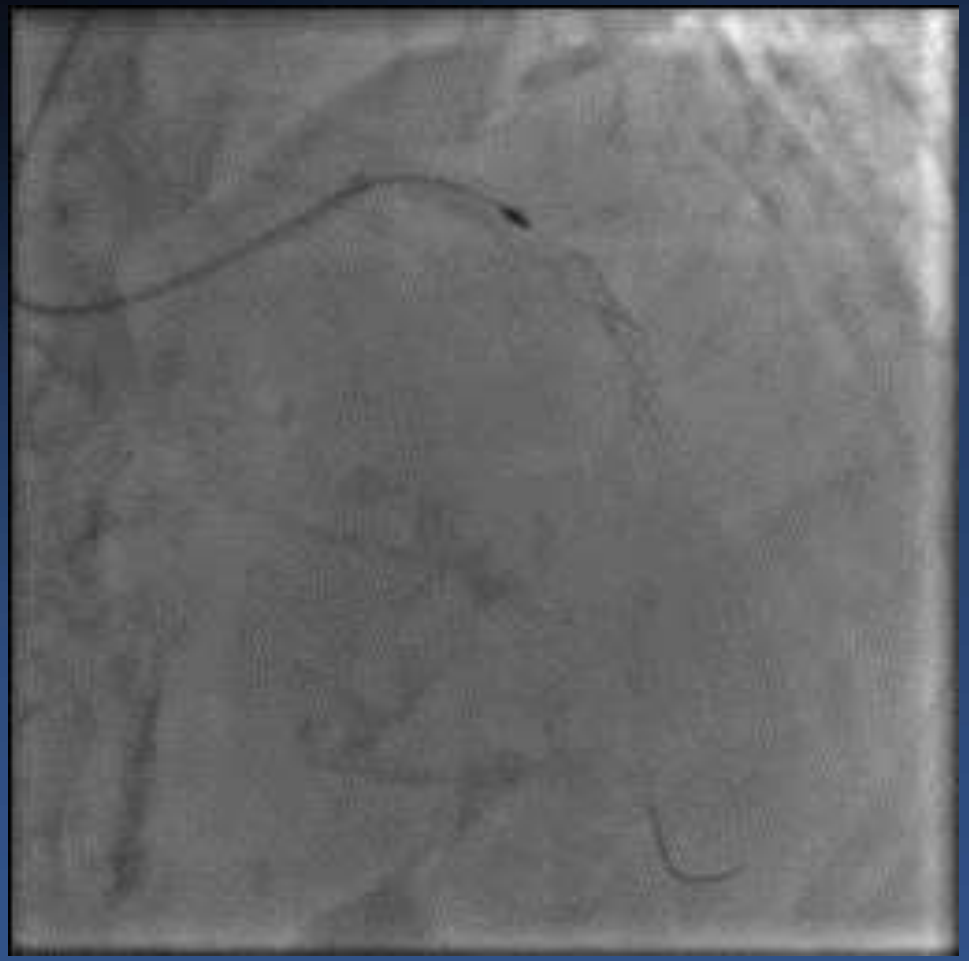
- Due to costs constraints, IVUS guidance was not used.

- ***Scoreflex NC 3.0X10mm*** up to 20atm

also failed to crack the lesion.

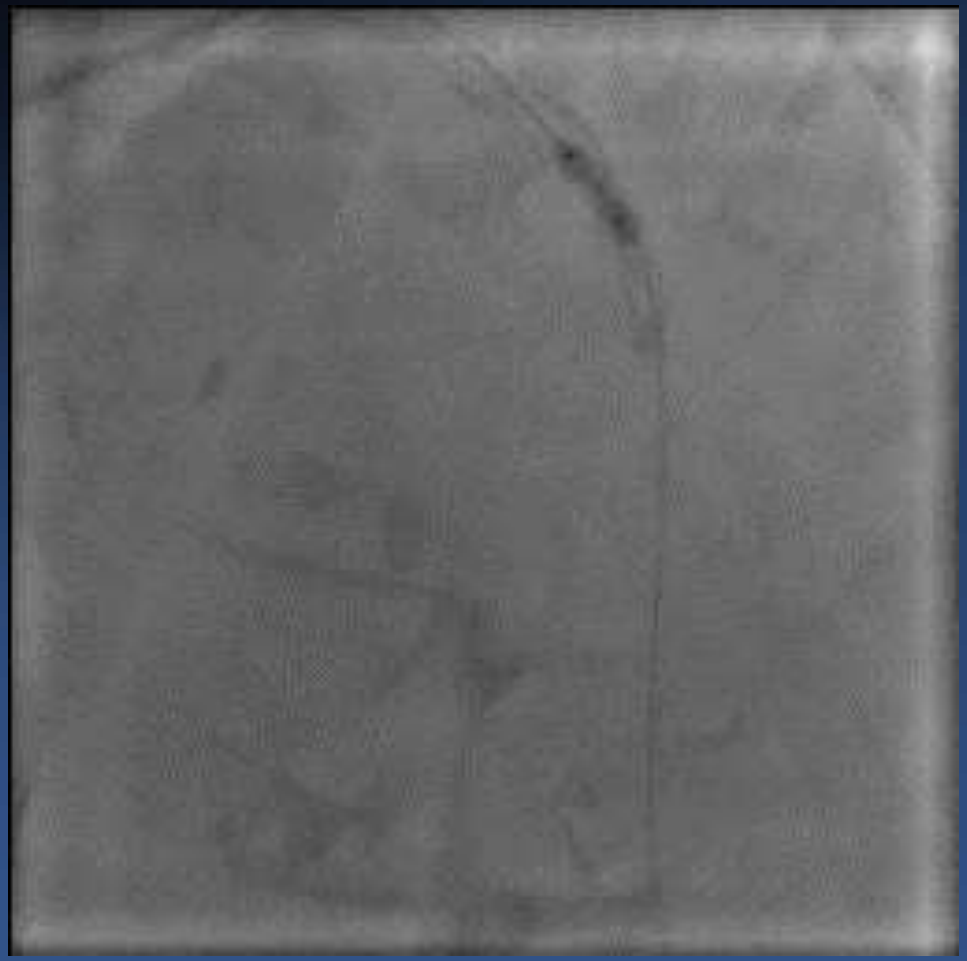
- proceeded to ***1.5mm burr rotational atherectomy*** without any problems

1st round rota 1.5mm..



Finished with polishing runs..

What next….??



Problems solved???

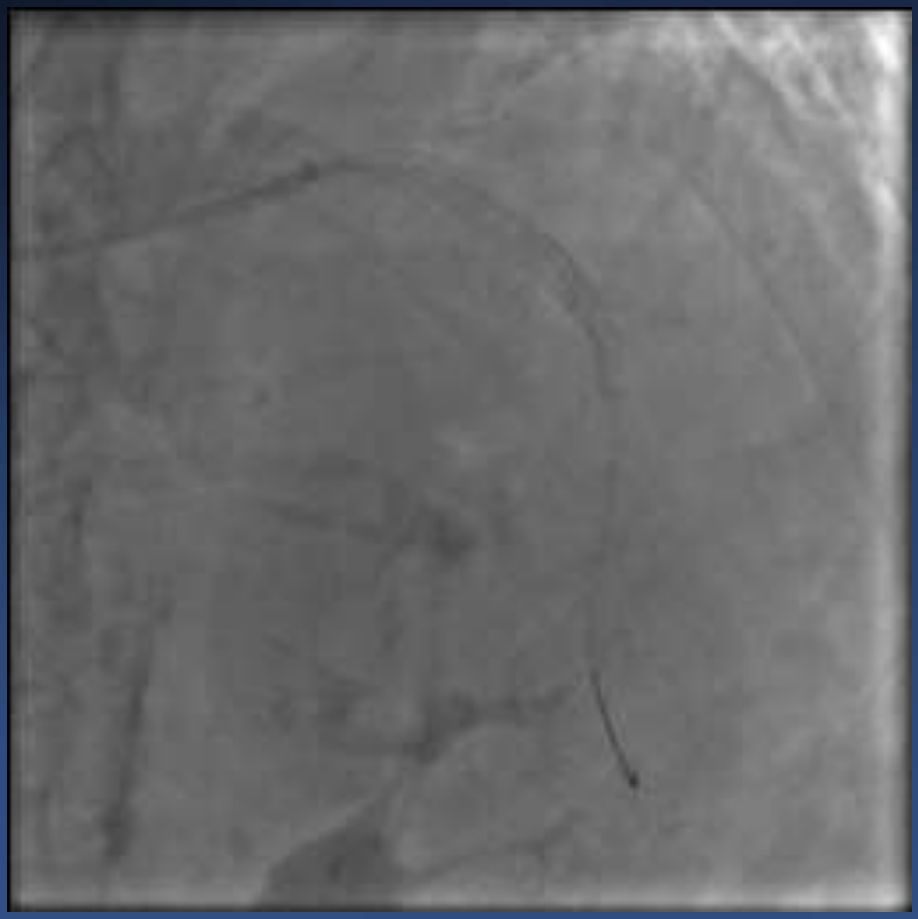
SUBSEQUENT HIGH PRESSURE DILATION WITH NC BALLOONS AND SCOREFLEX FAILED TO ACHIEVE DILATATION

Change of strategy.....

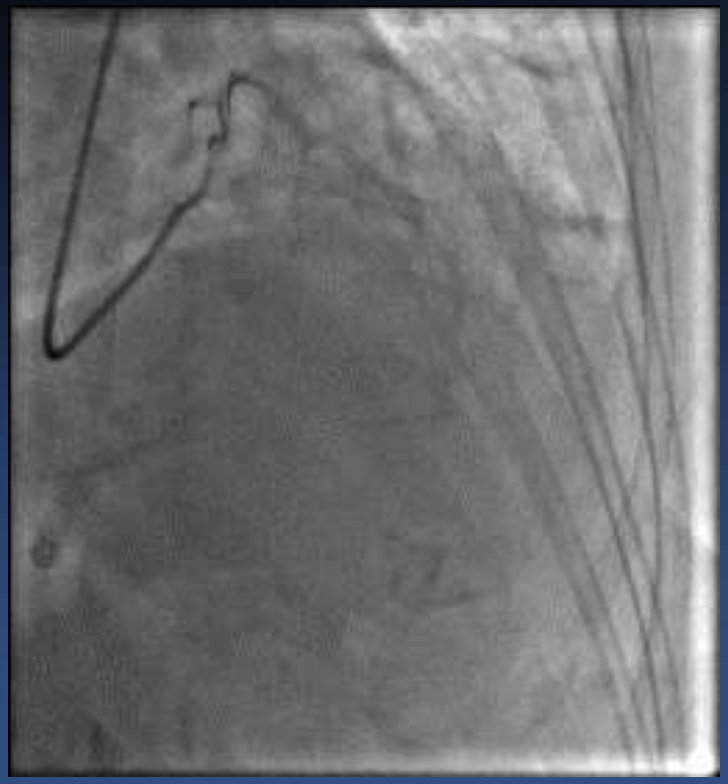
- as finance is an issue, 1.75mm upsizing in r ota burr was not considered
- OPN 3.0X10mm was used instead and succ essful PTCA was achieved at 34atm without any signs of perforation
- procedure completed with Biomatrix 3.0mm X 24mm at high pressure and postdilated w ith Lacrosse 3.25mmX10mm at 20atm.
- Good final results achieved.

High pressure OPN to the rescue

...



Final results….

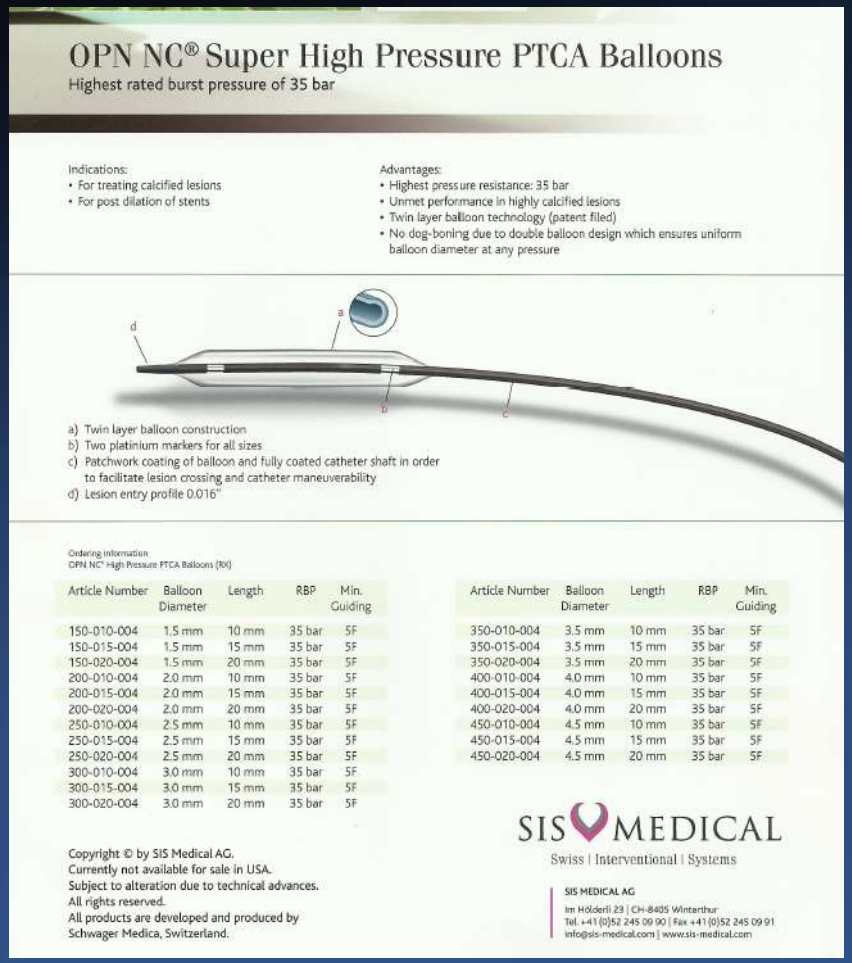


Learning point in this case…

- absolute need for rotational atherectomy i n the management of undilatable calcific le sion despite NC balloon/scoring balloon.

- Sizing of rota burr is essential because of fi nancial consideration. Should upsizing of bi gger burr is not possible, then very high pr essure balloon dilation (extreme noncompli ant balloon, i.e. OPN) can be used to optimi se lesion prior to stenting.

OPN balloon characteristics



OPN NC® Super High Pressure PTCA Balloons

Highest rated burst pressure of 35 bar

Indications:
- For treating calcified lesions
- For post dilation of stents

Advantages:
- Highest pressure resistance: 35 bar
- Unmet performance in highly calcified lesions
- Twin layer balloon technology (patent filed)
- No dog-boning due to double balloon design which ensures uniform balloon diameter at any pressure

a) Twin layer balloon construction
b) Two platinium markers for all sizes
c) Patchwork coating of balloon and fully coated catheter shaft in order to facilitate lesion crossing and catheter maneuverability
d) Lesion entry profile 0.016"

Ordering information
OPN NC® High Pressure PTCA Balloons (RX)

Article Number	Balloon Diameter	Length	RBP	Min. Guiding
150-010-004	1.5 mm	10 mm	35 bar	5F
150-015-004	1.5 mm	15 mm	35 bar	5F
150-020-004	1.5 mm	20 mm	35 bar	5F
200-010-004	2.0 mm	10 mm	35 bar	5F
200-015-004	2.0 mm	15 mm	35 bar	5F
200-020-004	2.0 mm	20 mm	35 bar	5F
250-010-004	2.5 mm	10 mm	35 bar	5F
250-015-004	2.5 mm	15 mm	35 bar	5F
250-020-004	2.5 mm	20 mm	35 bar	5F
300-010-004	3.0 mm	10 mm	35 bar	5F
300-015-004	3.0 mm	15 mm	35 bar	5F
300-020-004	3.0 mm	20 mm	35 bar	5F

Article Number	Balloon Diameter	Length	RBP	Min. Guiding
350-010-004	3.5 mm	10 mm	35 bar	5F
350-015-004	3.5 mm	15 mm	35 bar	5F
350-020-004	3.5 mm	20 mm	35 bar	5F
400-010-004	4.0 mm	10 mm	35 bar	5F
400-015-004	4.0 mm	15 mm	35 bar	5F
400-020-004	4.0 mm	20 mm	35 bar	5F
450-010-004	4.5 mm	10 mm	35 bar	5F
450-015-004	4.5 mm	15 mm	35 bar	5F
450-020-004	4.5 mm	20 mm	35 bar	5F

SIS MEDICAL
Swiss | Interventional | Systems

SIS MEDICAL AG
Im Hölderli 23 | CH-8405 Winterthur
Tel. +41 (0)52 245 09 90 | Fax +41 (0)52 245 09 91
info@sis-medical.com | www.sis-medical.com

- Twin layer balloon construction with virt ually zero dog – boning effect

Super high pressure PTCA balloon (RPB 35 atm)

- Long tapared tip design for a better cross ability

- Better crossing profile (0.028" 2.0mm) tha n scoring - and cutting balloons

- Min. guiding catheter: 5F

- Two platinum markers for all sizes: availabl e from 1.5 – 4.5mm diameter

- Linear compliance curve up to over 40atm

- Lowest compliance on the market

Thank you…