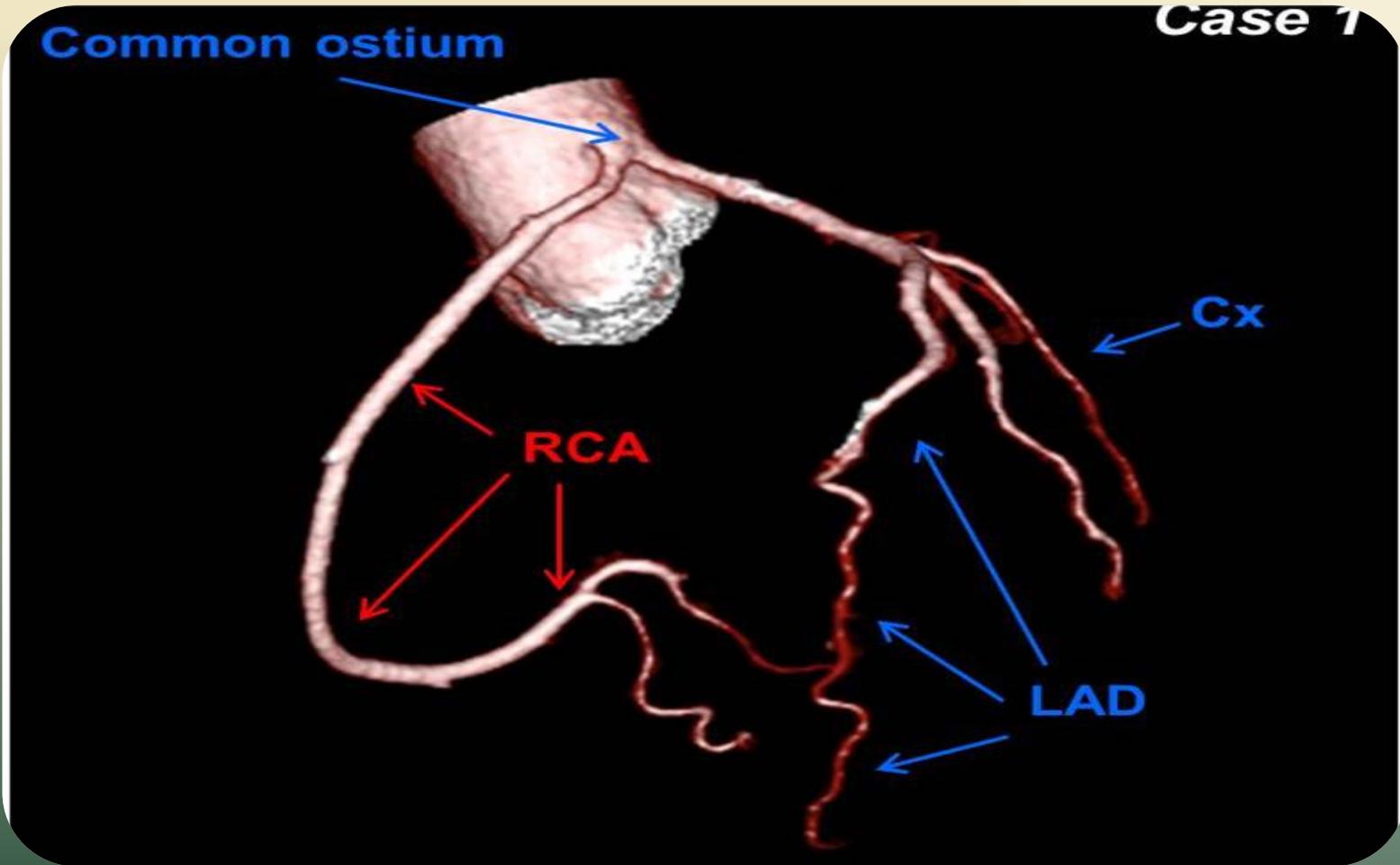


LONG-TERM CLINICAL OUTCOMES OF ISOLATED OSTIAL LEFT ANTERIOR DESCENDING DISEASE TREATMENT

Ostial Stenting versus Left Main Cross-Over Stenting

Van H Le

OVERVIEW



METHODS

Both clinical and instrumental records of 74 consecutive patients (54 males, mean age 73.39[±]9.54 Years old)	Isolated <i>ostial LAD disease</i>	Receive stenting between the 1 st January 2012 and the 1 st January 2017 at institutions	Patients has been stratified according the stenting techniques adopted : <i>OSTIAL STENTING (OS)</i> or <i>LM CROSS-OVER (CO)</i>
----------------------------------------------------------------------------------------------------------------	------------------------------------	----------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------

Procedural data and follow up outcomes were compared

PROGNOSIS PARAMETERS & TECHNIQUES

SYNTAX score

IVUS

Calcification

Fluoroscopy time & contrast medium volume

MACE & TVR

① SYNTAX score

The SYNTAX score is an angiographic grading tool to determine the complexity of coronary artery disease

- **Below 22 : Low-risk lesion**
- **Between 22-32 : Medium risk lesion**
- **Above 32 : High risk lesion**

RESULTED

CO (24.1[±]2.5 , P<0.0001)

OS (16.2[±] 3.3, P<0.0001)

CO > OS

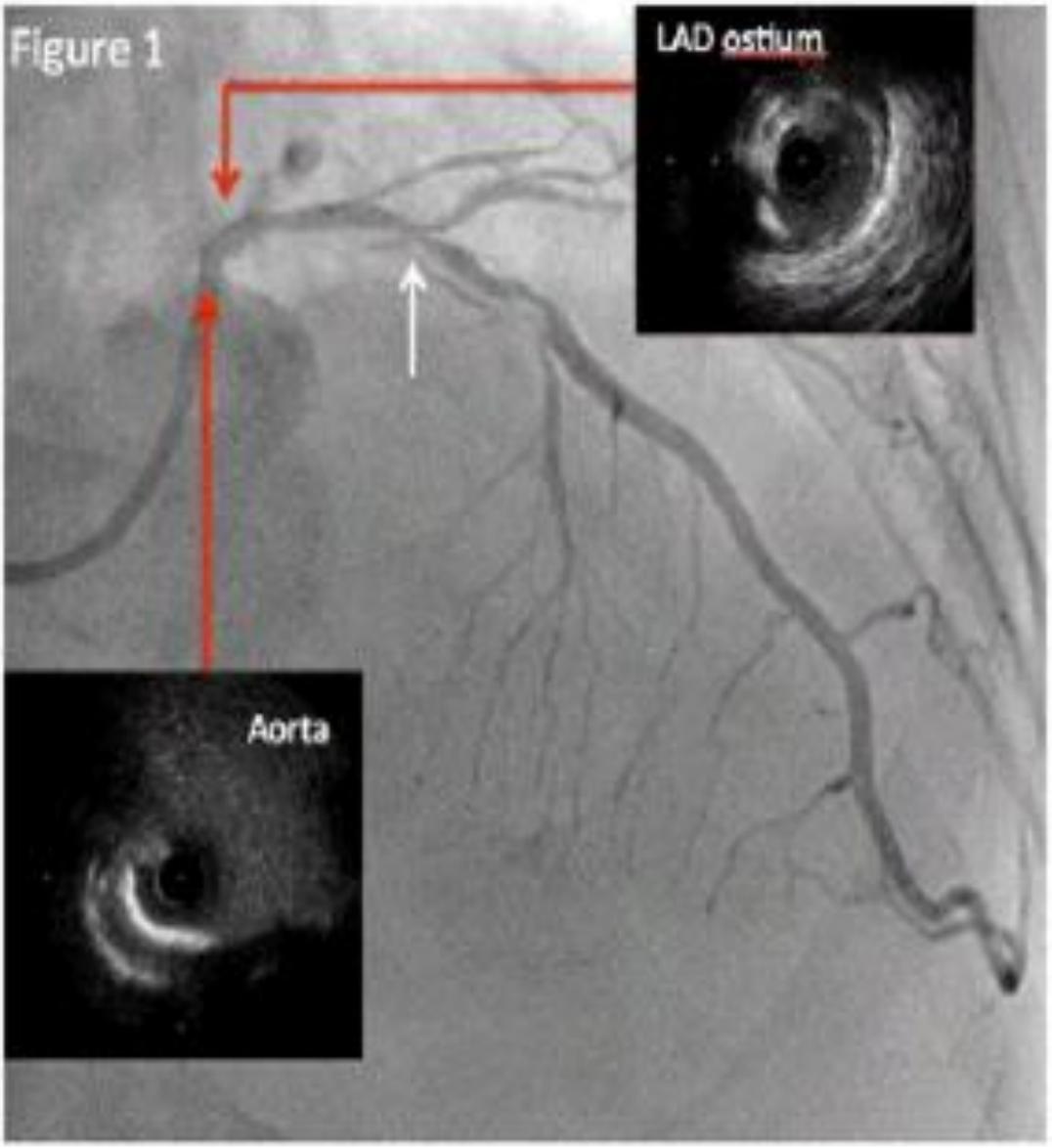
OS: from 12.9-19.5 - mild lesion

CO: from 21.6-26.6 - med/high lesion

According to the result : the higher the Syntax , the more risk cardiovascular complications

② IVUS – INTRAVASCULAR ULTRASOUND

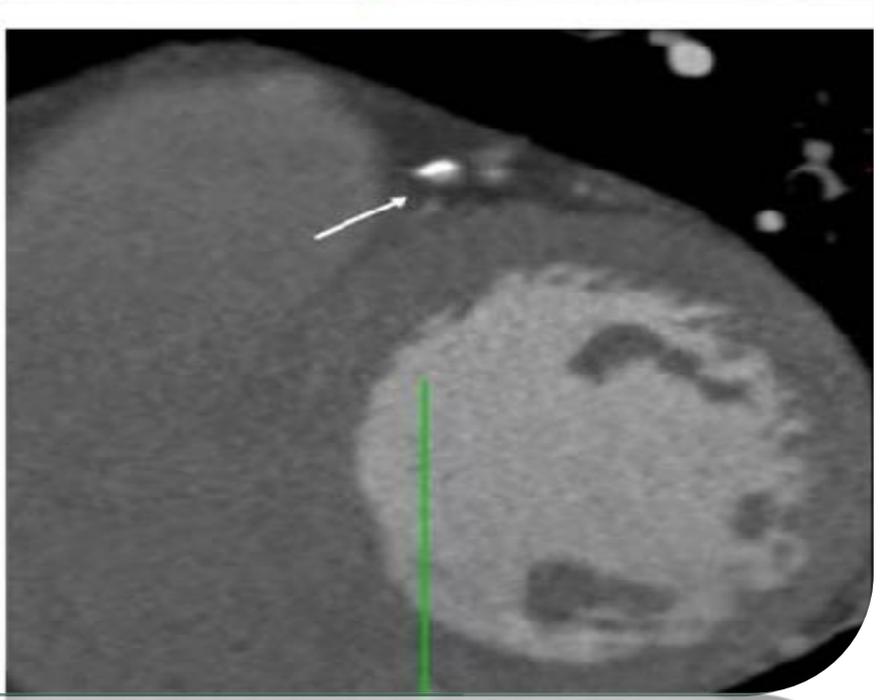
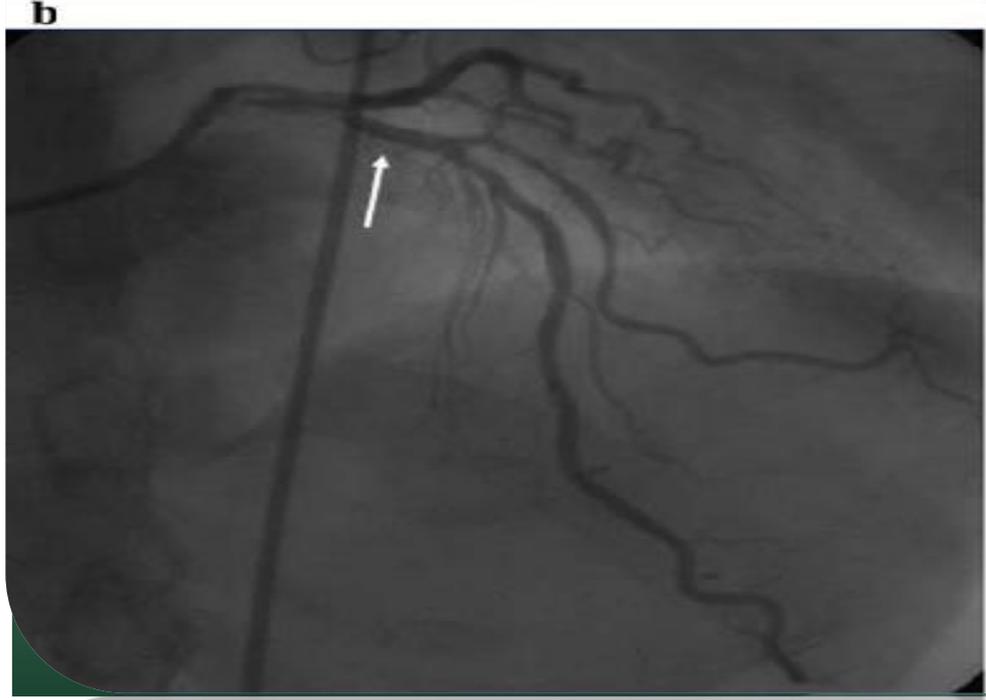
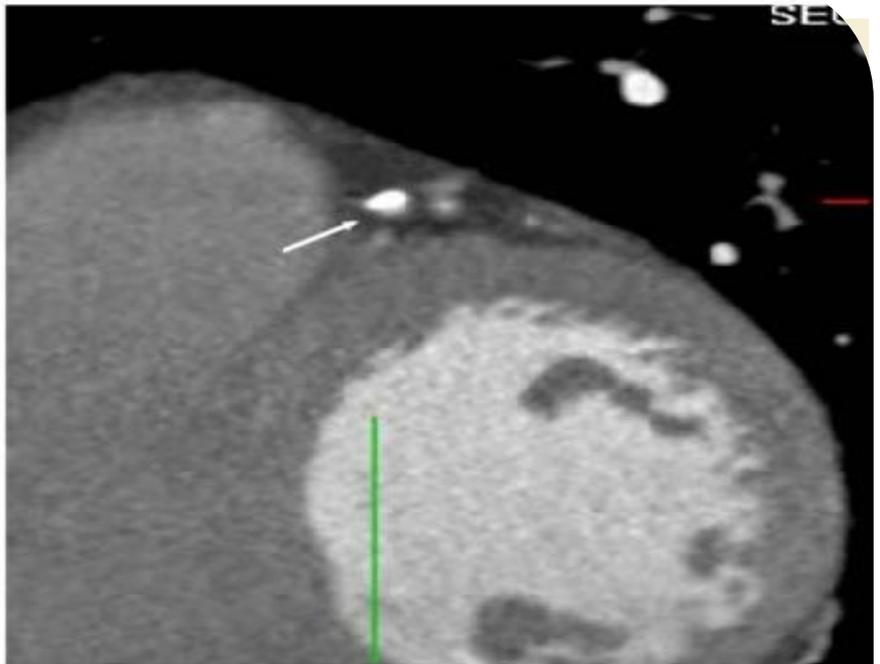
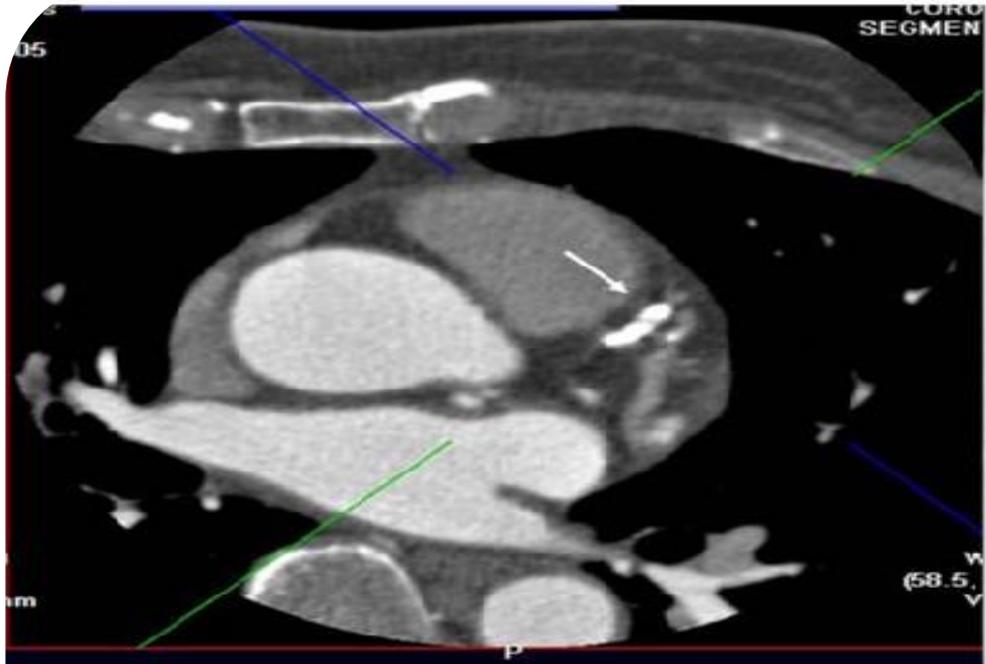
IVUS- Medical imaging methodology using a specially designed catheter with a miniaturized ultrasound probe attached to the distal end of the catheter



- IVUS is used predominantly in CO group -> extension of plaque burden of at least 10mm (of LM proximal to LAD ostium) -> in all the 18 out of 21 patients (85.7%)

③ CALCIFICATION

A gradual increase in the amount of calcium in body tissue :
Arterial walls maybe develop calcifications -> reduce the ability of the vessels to transport blood adequately



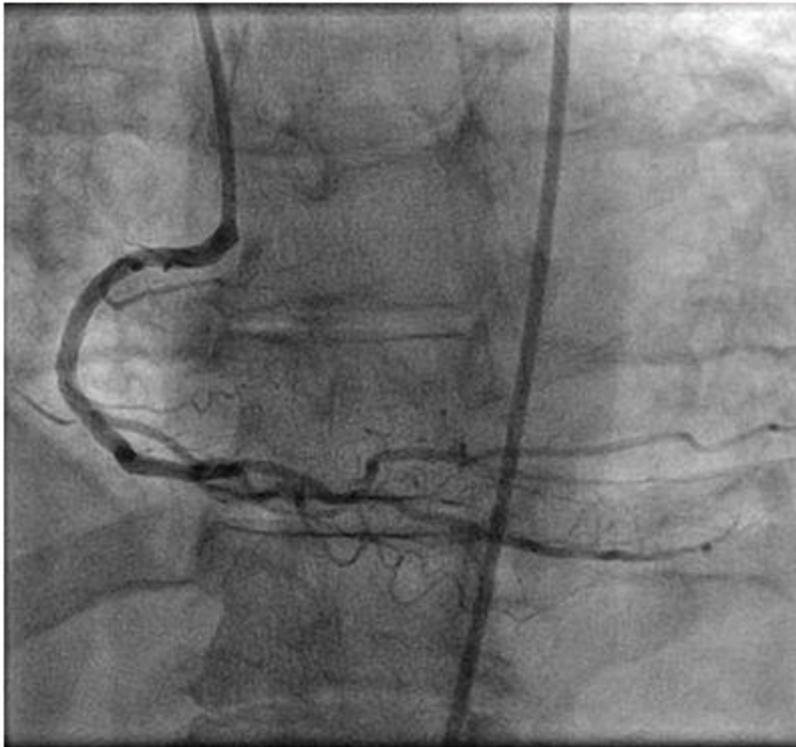
- Calcifications extending for at least 45* of the circumference of the vessel have been appreciated by IVUS in 12/21 patients => CO reveals calcification in the intravascular better than OS
- Why IVUS can be seen with calcification ?

④ Fluoroscopy time & contrast medium volume

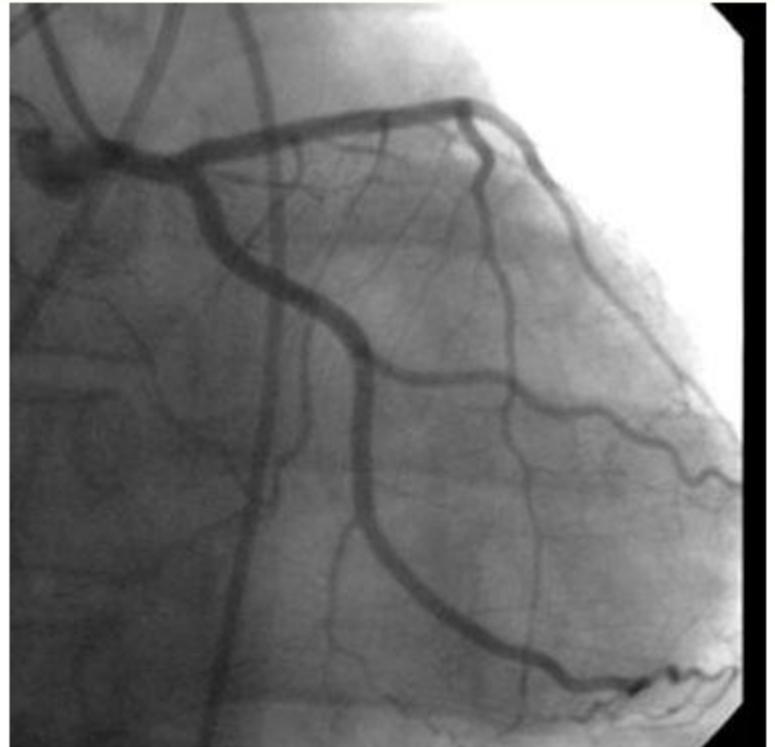
Contract medium : substance introduced into a part of the body in order to improve the visibility of internal structure during radiography

Fluoroscopic Views

Right coronary arteries shown with contrast



Left coronary arteries shown with contrast





- **Fluoroscopy time and contrast medium volume were higher in OS versus CO groups of patients**

=> This suggests that the OS group is likely at greater risk of being placed for longer periods of time and more severe complications than CO group

⑤ MACE & TVR

MACE- major adverse cardiac events was defined as all-cause mortality , myocardial infarction , or coronary revascularization

TVR - target vessel revascularization is defined as any repeat percutaneous intervention or surgical bypass of any segment of the target vessel

- On mean follow-up of 49.7[±]7.9 months

MACE in OS group : 21%

MACE in CO group : 10.1%



OS > CO
OS is likely to have
cardiovascular events
greater than CO
group

TVR in OS group : 21%

TVR in CO group : 5.6%



OS > CO
OS is likely to
perform a coronary
artery bypass surgery
greater than CO
group

CONCLUSION

- On long-term follow-up CO appeared superior to OS technique for isolated ostial LAD disease especially in the presence of heavy calcification. In such cases IVUS should be routinely used.

REFERENCES

- <https://www.invasivecardiology.com/article/7950>
- <https://dehartenvrouw.wordpress.com/english/>
- <https://www.cathlabdigest.com/articles/What-SYNTAX-Score-and-How-Should-We-Use-It>
- <http://www.ptca.org/ivus/ivus.html>
- <https://www.healthline.com/health/calcification>
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5013175/>