Role of IVUS in Lt main coronary intervention

by

Youssry Kamel ,MD
National Heart Institute

Clinical data case 1

Female patient
49 Y old

Risk Factors:
Strong + FH
Mid HTN
Dyslipedimic
Obese
Not DM

Complaint:
chest pain at rest (nocturnal) and exertinal dyspnea

ECG: no specific changes

Echo : Normal

CT angio : significant ostial LM stenosis.

C.Angio was **inconclusive** with lesion appearing mild in several views and significant eccentric in others

Conclusion :

Despite the original diagnosis made by CT and diagnostic CA ,**IVUS was very crucial** to clarify that this patient has mild non significant occlusive plaque in the ostium of the Lt. main.

Treatment strategy:

Tight control of risk factors.

Aggressive lipid lowering agents.

close Follow up.

Clinical Data Case 2

Male patient

53 years

Risk Factors:

Not DM

Not HTN

Heavy smoker

Complaint:

CC Class II chest pain

ECG: no specific changes

Cardiac biomarkers: Normal

Echo:

No RWMA

Good LV systolic function
EF:55%

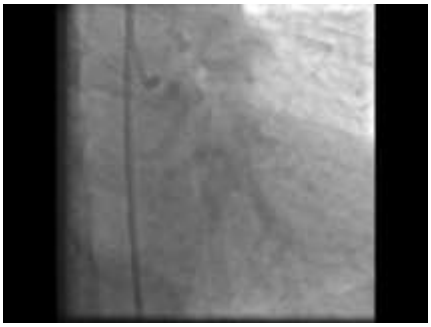
DD Grade 1

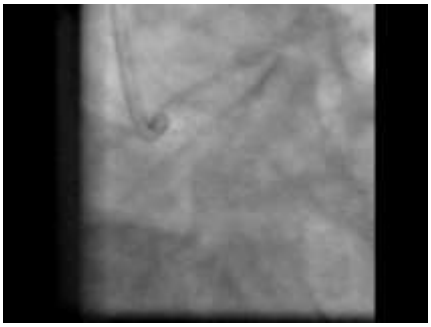
Stress ECG: +ve at stage 2

2 mm ST segment depression in
LII,III,avF & V 4-6

Final angiographic result

Before PCI **After PCI**





IVUS guided PCI Lt main

Pre PCI
IVUS MLA:5.7 mm2

Post PCI
IVUS MLA: 15.1 mm2 s

IVUS guided PCI Lt main

Improper apposition of stent	Proper apposition of stent

Take home message

- Although angiography is considered the gold standard for coronary artery assessment, the severity of atherosclerotic stenotic lesions might be **misjudged** due to significant inter-observer variability which could lead to use of inappropriate strategies .
- Among all coronary lesions, the decision-making process for the treatment of **unprotected** left main (ULM) stem lesions is still challenging.

Take home message

- The use of invasive assessment is not a routine during PCI , however , in case of atherosclerotic UPLM stenosis ,the use of either (**IVUS + /- FFR)** is **extremely important** to improve selection of PCI cases, technique of stenting and to optimize the outcome.

- PCI is a valuable alternative to CABG in UPLM stenosis especially in selected patients group.
  (low or moderate anatomical complexity)