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

Ostial Stenting versus Left Main Cross-Over Stenting

Van H Le
## METHODS

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

Procedural data and follow up outcomes were compared
PROGNOSIS
PARAMETERS & TECHNIQUES

- SYNTAX score
- IVUS
- Calcification
- Fluoroscopy time & contrast medium volume
- MACE & TVR
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

<table>
<thead>
<tr>
<th>CO</th>
<th>OS</th>
</tr>
</thead>
<tbody>
<tr>
<td>24.1[±]2.5, P&lt;0.0001</td>
<td>16.2[±]3.3, P&lt;0.0001</td>
</tr>
</tbody>
</table>

**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
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%)
A gradual increase in the amount of calcium in body tissue:
Arterial walls may develop calcifications -> reduce the ability of the vessels to transport blood adequately.
• Calcifications extending for at least $45^\circ$ 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?
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
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 $49.7 \pm 7.9$ months

MACE in OS group: 21%
MACE in CO group: 10.1%

TVR in OS group: 21%
TVR in CO group: 5.6%

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

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/