COMPLETE Trial
OCT Substudy

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COMPLETE Trial
OCT Substudy

• Disclosures F Van de Werf: none
COMPLETE and Previous Trials

Complete revascularization in STEMI patients with multivessel disease and non-culprit, obstructive lesions, suitable for PCI is associated with clinical benefit.
COMPLETE Trial
OCT Substudy: Key Finding

Around 50% of STEMI patients with obstructive multivessel disease have non-culprit obstructive lesions with vulnerable plaque morphology by OCT.

Explain clinical benefit observed with preventive PCI in STEMI patients with multivessel disease
Around 20% of STEMI patients may have only NON-obstructive lesions with vulnerable plaque morphology by OCT.

This finding strongly supports the immediate start of intensive lipid lowering therapy (statins) as recommended by guidelines.
Around 30% of STEMI patients may have only non-culprit, obstructive lesions WITHOUT vulnerable plaque morphology by OCT.

The best strategy post PCI in these patients requires further study (COMPLETE 2?)
Complete revascularization in STEMI patients with multivessel disease and obstructive, non-culprit lesions, suitable for PCI is associated with clinical benefit
How and When to Identify and Treat “suitable lesions“?
### Patients Randomized to Non-Culprit Lesion PCI

<table>
<thead>
<tr>
<th>Patients</th>
<th>PRAMI N=234</th>
<th>CvLPRIT N=150</th>
<th>PRIMULTI N=314</th>
<th>COMPARE-A N=295</th>
<th>COMPLETE N=2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timing of Non-Culprit PCI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- index PCI</td>
<td>234</td>
<td>96</td>
<td>-</td>
<td>136</td>
<td>-</td>
</tr>
<tr>
<td>- index admission</td>
<td>-</td>
<td>52</td>
<td>314</td>
<td>27</td>
<td>1285</td>
</tr>
<tr>
<td>- re-hospitalization</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>596</td>
</tr>
<tr>
<td>Identification of suitable lesions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- FFR</td>
<td>-</td>
<td>-</td>
<td>97 (31%)</td>
<td>292 (99%)</td>
<td>21</td>
</tr>
<tr>
<td>- OCT</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>99</td>
</tr>
</tbody>
</table>
What about CABG after successful primary PCI?

- In the trial papers, little or no information is provided on patients excluded because of planned CABG.
- In some patients allocated to complete revascularization by PCI, CABG was needed during FU (1.6% complete vs 0.9% in culprit only/ data from 3 trials).
- If the choice of revascularization (PCI or CABG) of non-culprit lesions is made during index PCI, CABG is less likely to be chosen.
### STREAM 1: Revascularization Procedures

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Pharmaco-invasive (N=944)</th>
<th>PPCI (N=948)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCI performed</td>
<td>80%</td>
<td>90%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Stents deployed</td>
<td>96%</td>
<td>96%</td>
<td>0.95</td>
</tr>
<tr>
<td>CABG performed</td>
<td>4.7%</td>
<td>2.1%</td>
<td>0.002</td>
</tr>
</tbody>
</table>
This OCT substudy provides important pathophysiological information for further treatment post PCI in STEMI patients with non-culprit obstructive lesions.

OCT (and FFR) should not be performed during index primary PCI.

Interventional cardiologists should not forget that CABG might be a better revascularization treatment in some cases (e.g. left main!!, DM...).
Complete Trial
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Per Patient Prevalence of TCFA

Per patient prevalence (%)

- Obstructive TCFA +/- Non-obstructive TCFA: 44 (47.3%)
- Non-obstructive TCFA only: 19 (20.4%)
- No TCFA: 30 (32.3%)
Question 1

Would you perform FFR or OCT to identify suitable lesions or would you rely on visual evaluation only

- FFR?
- OCT?
- Visual evaluation only?
Question 2

When would you perform the non-culprit PCI?

- during index primary PCI catheterization?
- during index admission?
- during re-hospitalization?