Background

Title
Major Adverse Cardiac Events when an LAD lesion is deferred after physiological assessment by FFR or iFR: A sub-study of DEFINE FLAIR

Reference

Methods
Within the DEFINE FLAIR population group (N=2492), LAD deferred patients (based on physiological assessment) were compared between iFR and FFR in this sub study. Outcomes are based on MACE at one year. Outcomes were adjusted for age and gender.

Population
N=872 (421 guided by FFR, 451 guided by iFR).

Results

<table>
<thead>
<tr>
<th>LAD lesion deferral</th>
<th>iFR group (n=451)</th>
<th>FFR group (n=421)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MACE (Cardiovascular death, myocardial infarction, unplanned revascularization)</td>
<td>11 (2.44%)</td>
<td>23 (5.46%)</td>
<td>0.04</td>
</tr>
<tr>
<td>All-cause death</td>
<td>4 (0.89%)</td>
<td>5 (1.19%)</td>
<td>0.69</td>
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<tr>
<td>Myocardial infarction</td>
<td>2 (0.44%)</td>
<td>9 (2.14%)</td>
<td>0.06</td>
</tr>
<tr>
<td>Unplanned revascularization</td>
<td>10 (2.22%)</td>
<td>21 (4.99%)</td>
<td>0.03</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-LAD lesion deferral</th>
<th>iFR group (n=343)</th>
<th>FFR group (n=327)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MACE (Cardiovascular death, myocardial infarction, unplanned revascularization)</td>
<td>18 (5.25%)</td>
<td>17 (5.20%)</td>
<td>0.63</td>
</tr>
<tr>
<td>All-cause death</td>
<td>5 (1.46%)</td>
<td>4 (1.22%)</td>
<td>0.72</td>
</tr>
<tr>
<td>Myocardial infarction</td>
<td>5 (1.46%)</td>
<td>6 (1.83%)</td>
<td>0.89</td>
</tr>
<tr>
<td>Unplanned revascularization</td>
<td>15 (4.37%)</td>
<td>16 (4.89%)</td>
<td>0.97</td>
</tr>
</tbody>
</table>

Note: MI includes target vessel, non-target vessel, and peri-procedural. Unplanned revascularization includes TVR and non-TVR.

Proportion with MACE

HR= 0.47
95% CI: (0.23, 0.96)
n=872

This figure outlines the primary endpoint in patients with left anterior descending stenoses who were deferred according to intracoronary physiology. Adjusted hazard ratio: 0.46, 95% confidence interval: 0.22 to 0.95, p = 0.04.
Unplanned revascularization is 56% lower with iFR

### Explanation

iFR and CFR agreement has been demonstrated to be significantly closer than that of FFR and CFR. Therefore the proportion of patients in which iFR is normal and CFR abnormal is lower, possibly explaining the lower event rate in the iFR deferred patients.

- CFR is the most powerful predictor of events
- FFR and CFR discordance can be as high as 40%
- CFR and iFR have a higher concordance

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