Joint ESC – EACTS Guidelines on Myocardial Revascularisation

Joint Task Force on Myocardial Revascularisation of the European Society of Cardiology (ESC) and the European Association of Cardio-Thoracic Surgery (EACTS)

Developed with the special contribution of the European Association for Percutaneous Cardiovascular Interventions (EAPCI)
Previous ESC Guidelines

The following ESC Guidelines are very relevant for Myocardial Revascularisation and served as background and foundation for our Task Force:


Only 2 chapters out of 12 on « techniques » of PCI or CABG
Joint ESC – EACTS Guidelines on Myocardial Revascularisation

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Joint ESC – EACTS Guidelines on Myocardial Revascularisation

<table>
<thead>
<tr>
<th>Level of Evidence A</th>
<th>Data derived from multiple randomized clinical trials or meta-analyses.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of Evidence B</td>
<td>Data derived from a single randomized clinical trial or large non-randomized studies.</td>
</tr>
<tr>
<td>Level of Evidence C</td>
<td>Consensus of opinion of the experts and/or small studies, retrospective studies, registries.</td>
</tr>
</tbody>
</table>

- Out of 273 recommendations, level of evidence was A in 28%, B in 43% and C in 29%
Parachutes appear to reduce the risk of injury but their effectiveness has not been proved with randomised controlled trials.

Evidence of the « C » level is not necessarily weak!

Level of Evidence = C
Debated and Controversial Issues

- Patient information and process for decision making
- Heart Team
- PCI “ad hoc” and self-referral
- Revascularisation for stable CAD
  - OMT only vs OMT + revascularisation
  - PCI vs CABG
- Equipoise between Primary PCI and fibrinolytic therapy ≤ 2 hours
- Delay for urgent PCI in high-risk NSTE-ACS
- New antithrombotic and antiplatelet drugs
NIKO NE VOLI HIRURGIJU!!! (pa ni CABG)!
Recommendations for decision making and patient information

<table>
<thead>
<tr>
<th>It is recommended that the patient be adequately informed about the potential benefits and short- and long-term risks of a revascularisation procedure. Enough time should be spared for informed decision making.</th>
<th>Class</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>C</td>
<td></td>
</tr>
</tbody>
</table>

The appropriate revascularisation strategy in patients with MVD should be discussed by the Heart Team.
The Heart Team

Task Force composition = 7 clinical cardiologists (non interventional) + 10 interventional cardiologists + 8 cardiac surgeons
SYNTAX Trial Design

62 EU Sites + 23 US Sites

De novo 3VD and/or LM (isolated, +1,2,3 VD)

Limited Exclusion Criteria
Previous interventions, Acute MI with CPK>2x, Concomitant cardiac surgery

Heart Team (Surgeon & Interventional Cardiologist)

Amenable for both treatment options
Amenable for only one treatment approach

Stratification: LM and Diabetes

Randomized Arms
N=1800

Two Registry Arms
N=1275
I say to all surgeons if there are two or several of them that they should never quarrel before the patient for that would frighten the patient very much.
Tasks for the local Heart Team

• To review institutional results in all transparency for benchmarking and guidance in decision making
• To organize morbidity and mortality conferences
• To ensure proper patient information and consent, including adequate discussion of alternatives, risks and benefits, short and longer term, avoiding anonymous treatment
• To define standard protocols compatible with the current Guidelines to avoid the need for the systematic case by case review of all diagnostic angiograms (clinical pathways)
• To design institutional protocols that define specific anatomic criteria and clinical subsets that should be treated *ad hoc*, or not
Potential indications for *ad hoc* PCI versus revascularisation at an interval

<table>
<thead>
<tr>
<th><strong>Ad hoc PCI</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Haemodynamically unstable patients (including cardiogenic shock).</td>
</tr>
<tr>
<td>Culprit lesion in STEMI and NSTE-ACS.</td>
</tr>
<tr>
<td>Stable low-risk patients with single or double vessel disease (proximal LAD excluded) and favourable morphology (RCA, non-ostial LCx, mid or distal LAD).</td>
</tr>
<tr>
<td>Non-recurrent restenotic lesions.</td>
</tr>
</tbody>
</table>

- *Ad hoc* PCI is convenient for the patient, associated with fewer access site complications, and often cost-effective.
- *Ad hoc* PCI is reasonable for many patients, but not desirable for all, and should not be automatically applied as a default approach.
### Potential indications for ad hoc PCI versus revascularisation at an interval

<table>
<thead>
<tr>
<th>Revascularisation at an interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesions with high-risk morphology.</td>
</tr>
<tr>
<td>Chronic heart failure.</td>
</tr>
<tr>
<td>Renal failure (creatinine clearance &lt; 60 mL/min), if total contrast volume required &gt; 4 mL/kg.</td>
</tr>
<tr>
<td>Stable patients with MVD including LAD involvement.</td>
</tr>
<tr>
<td>Stable patients with ostial or complex proximal LAD lesion.</td>
</tr>
<tr>
<td>Any clinical or angiographic evidence of higher periprocedural risk with <em>ad hoc</em> PCI.</td>
</tr>
</tbody>
</table>

- Hospital teams without a cardiac surgical unit or with interventional cardiologists working in an ambulatory setting should refer to standard evidence-based protocols designed in collaboration with an expert interventional cardiologist and a cardiac surgeon, or seek their opinion for complex cases.
Indications for revascularisation in stable CAD

- The Heart Team agrees on the indication for myocardial revascularisation, on top of optimal medical therapy

- Which technique can best be proposed to the patient:
  
  PCI or CABG?
### Indications for revascularisation in stable angina or silent ischaemia

<table>
<thead>
<tr>
<th>Subset of CAD by anatomy</th>
<th>Class</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left main &gt; 50%*</td>
<td>I</td>
<td>A</td>
</tr>
<tr>
<td>Any proximal LAD &gt; 50%*</td>
<td>I</td>
<td>A</td>
</tr>
<tr>
<td>2VD or 3VD with impaired LV function*</td>
<td>I</td>
<td>B</td>
</tr>
<tr>
<td>Proven large area of ischaemia (&gt; 10% LV)</td>
<td>I</td>
<td>B</td>
</tr>
<tr>
<td>Single remaining patent vessel &gt; 50% stenosis*</td>
<td>I</td>
<td>C</td>
</tr>
<tr>
<td>1VD without proximal LAD and without &gt; 10% ischaemia</td>
<td>III</td>
<td>A</td>
</tr>
</tbody>
</table>

* With documented ischaemia or Fractional Flow Reserve (FFR) < 0.80 for angiographic diameter stenosis 50-90%.

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<th>Subset of CAD by anatomy</th>
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<th>Level</th>
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<tr>
<td>Any stenosis &gt; 50% with limiting angina or angina equivalent, unresponsive to OMT</td>
<td>I</td>
<td>A</td>
</tr>
<tr>
<td>Dyspnoea/CHF and &gt; 10% LV ischaemia/viability supplied by &gt; 50% stenotic artery</td>
<td>IIA</td>
<td>B</td>
</tr>
<tr>
<td>No limiting symptoms with OMT</td>
<td>III</td>
<td>C</td>
</tr>
</tbody>
</table>

#### Joint 2010 ESC - EACTS Guidelines on Myocardial Revascularisation
These two lines intersect at a value of ~10% of ischaemic myocardium, above which the survival benefit for revascularization over medical therapy increases as a function of increasing amounts of inducible ischemia.

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PCI vs. Lysis: Importance of **Time**
Data from NRMI 2, 3 and 4 Registries

Pinto et al. Circulation, 2006
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Cardiology Update 2011, Davos

- By placing the patient at the center and emphasizing the importance of holistic clinical appraisal, the 2010 Joint ESC – EACTS Guidelines on Myocardial Revascularisation are promoting a multidisciplinary approach to the treatment of patients with CAD (and co-morbid conditions)

- Specialists in surgical and interventional revascularisation techniques have the choice between:
  - level zero: to continue the turf battle
  - level wisdom: to enjoy the Heart Team approach
  - level future: to implement the Hybrid Team concept
Status of Endorsement by National Societies

- Cardiology societies and interventional working groups
  
  53 societies representing Europe of cardiology

- Surgical societies