Secondary Prevention Following Coronary Artery Bypass Grafting: are we Compliant with the Guidelines?

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Secondary Prevention

• The prevention of recurrences or exacerbations of a disease that has already been diagnosed.

• “An essential part of long-term management after revascularisation because such measures reduce future morbidity and mortality, in a cost-effective way.”

Secondary Prevention Following CABG

• Methods
  – Medical
  – Risk factor modification
  – Permanent lifestyle changes

• Better long-term graft patency
# 2010 ESC / EACTS Guidelines


## Classes of recommendations

<table>
<thead>
<tr>
<th>Classes of recommendations</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Class I</strong></td>
<td>Evidence and/or general agreement that a given treatment or procedure is beneficial, useful, effective.</td>
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<tr>
<td><strong>Class II</strong></td>
<td>Conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of the given treatment or procedure.</td>
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<tr>
<td><strong>Class IIa</strong></td>
<td>Weight of evidence/opinion is in favour of usefulness/efficacy.</td>
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<tr>
<td><strong>Class IIb</strong></td>
<td>Usefulness/efficacy is less well established by evidence/opinion.</td>
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<tr>
<td><strong>Class III</strong></td>
<td>Evidence or general agreement that the given treatment or procedure is not useful/efficient, and in some cases may be harmful.</td>
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## Level of evidence

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

• AHA “Get With The Guidelines” is a continuous quality improvement program that collects data on patient adherence to secondary prevention within U.S. hospitals.

• Quality improvement interventions have been shown to improve adherence to prevention guidelines in patients post CABG.

Our Study

• We undertook this study to evaluate our level of compliance with evidence based guidelines on secondary prevention following CABG.

• Additionally, we wanted to see whether similar interventions could improve our discharge practices.
Methods

• A case-note review of patients with coronary artery disease undergoing CABG at our centre was conducted.

• Documentation in the medical records of provision of medications at the time of discharge was considered as acceptable compliance with guidelines.
  – Antiplatelet, Statin, Beta-blocker, ACE inhibitor / AT2 Antagonist

• Obvious allergies or contra-indications to specific medications were taken into consideration.
Methods

- Total 57 patients
  1) 25 case notes reviewed retrospectively
  2) Educational intervention
  3) 32 patients followed prospectively

- The comparisons of medication prescriptions prior and post intervention were performed using Fisher’s exact test by our hospital’s medical statistics department.
Results – Retrospective Review

- N = 25 (19 isolated, 6 combined with valve procedure)
Results – Prospective Review

- N = 32 (30 isolated, 2 combined with valve procedure)
## Results Overview

<table>
<thead>
<tr>
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<th>Pre Intervention</th>
<th>Post Intervention</th>
<th>P-Value</th>
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</thead>
<tbody>
<tr>
<td><strong>N=25</strong></td>
<td></td>
<td><strong>N=32</strong></td>
<td></td>
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<tr>
<td><strong>Antiplatelet</strong></td>
<td>1 (4%)</td>
<td>0</td>
<td>NS</td>
</tr>
<tr>
<td><strong>Beta-blocker</strong></td>
<td>1 (4%)</td>
<td>1 (3%)</td>
<td>NS</td>
</tr>
<tr>
<td><strong>Ace-Inhibitor</strong></td>
<td>8 (32%)</td>
<td>1 (3%)</td>
<td>0.007</td>
</tr>
<tr>
<td><strong>Statin</strong></td>
<td>0</td>
<td>1 (3%)</td>
<td>NS</td>
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Conclusions

• Significant increase (29%) in the prescribing of ACE-inhibitors from prior to post educational intervention.
• A knowledge gap exists amongst junior health care providers in cardiac surgery in regards to secondary prevention.
Improving Secondary Prevention

• Involve other members of multi-disciplinary team
  – Cardiac Nurse, Pharmacist, Physiotherapist, Dieticians.

• Development of standard admission/discharge orders and care pathways (AHA website)

• Patient education to aid in compliance.

• Communication with GPs regarding OMT post CABG.

• Incorporation of secondary prevention related topics into surgical education curriculum.
Limitations

- Small sample size
- Single centre
- Only medical aspects of secondary prevention were addressed.
- Re-audit necessary to see if change in practice will be sustained.
  - Information about secondary prevention added to our “SHO handbook”.