

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

	Class ^a	Level ^b
• ACE inhibitors should be started and continued indefinitely in all patients with LVEF ≤40% and for those with hypertension, diabetes, or CKD, unless contraindicated.	I	A
• ACE inhibitors should be considered in all patients, unless contraindicated.	IIa	A
• Angiotensin receptor blockers are indicated in patients who are intolerant of ACE inhibitors and have HF or MI with LVEF ≤40%.	I	A
• Angiotensin receptor blockers should be considered in all ACE-inhibitor intolerant patients.	IIa	A
• It is indicated to start and continue β-blocker therapy in all patients after MI or ACS or LV dysfunction, unless contraindicated.	I	A
• High-dose lipid lowering drugs are indicated in all patients regardless of lipid levels, unless contraindicated.	I	A
• Fibrates and omega-3 fatty acids (1 g/day) should be considered in combination with statins and in patients intolerant of statins.	IIa	B
• Niacin may be considered to increase HDL cholesterol.	IIb	B

Classes of recommendations	Definition
Class I	Evidence and/or general agreement that a given treatment or procedure is beneficial, useful, effective.
Class II	Conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of the given treatment or procedure.
Class IIa	<i>Weight of evidence/opinion is in favour of usefulness/efficacy.</i>
Class IIb	<i>Usefulness/efficacy is less well established by evidence/opinion.</i>
Class III	Evidence or general agreement that the given treatment or procedure is not useful/effective, and in some cases may be harmful.
Level of evidence A	Data derived from multiple randomized clinical trials or meta-analyses.
Level of evidence B	Data derived from a single randomized clinical trial or large non-randomized studies.
Level of evidence C	Consensus of opinion of the experts and/or small studies, retrospective studies, registries.

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

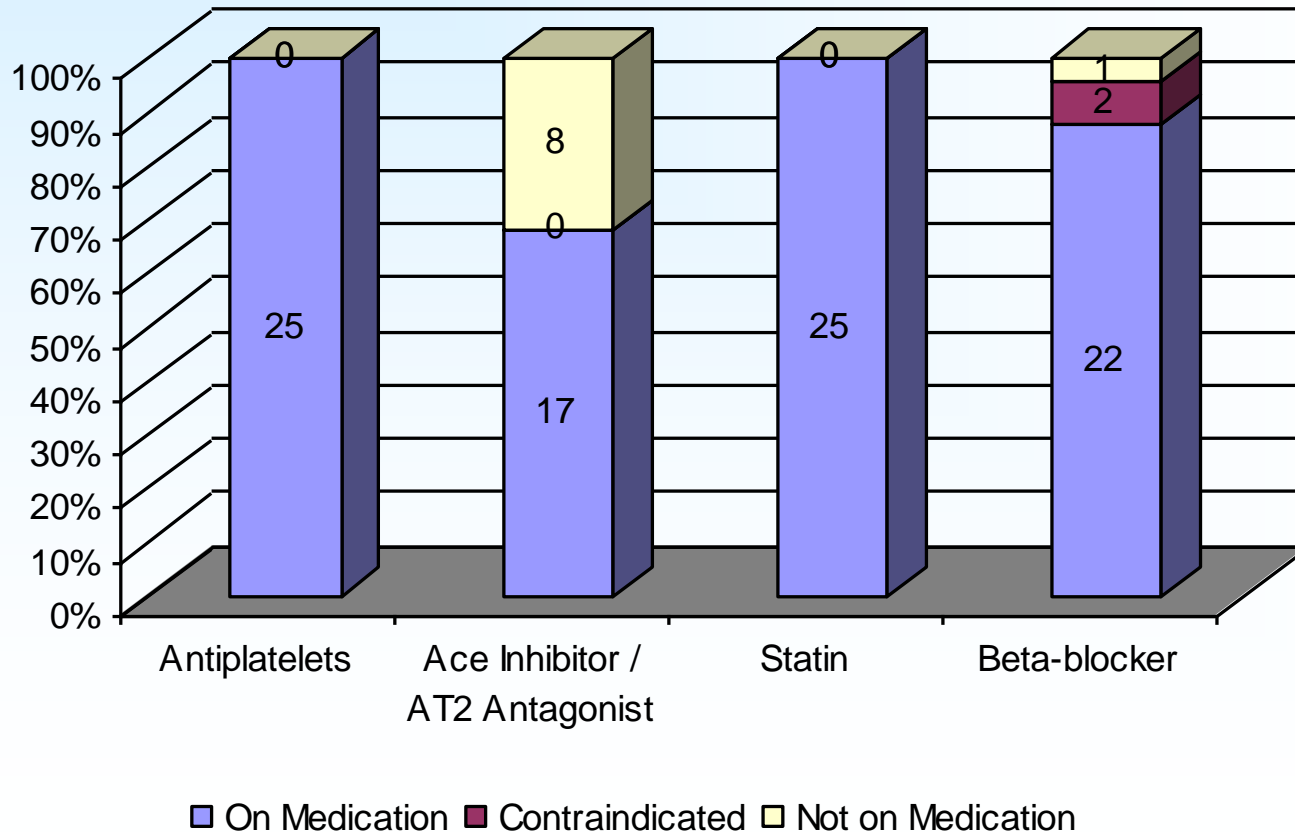
- A case-note review of patients with coronary artery disease undergoing CABG at our centre was conducted.
- Documentation in the medical records of provision of medications at the time of discharge was considered as acceptable compliance with guidelines.
 - Antiplatelet, Statin, Beta-blocker, ACE inhibitor / 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.

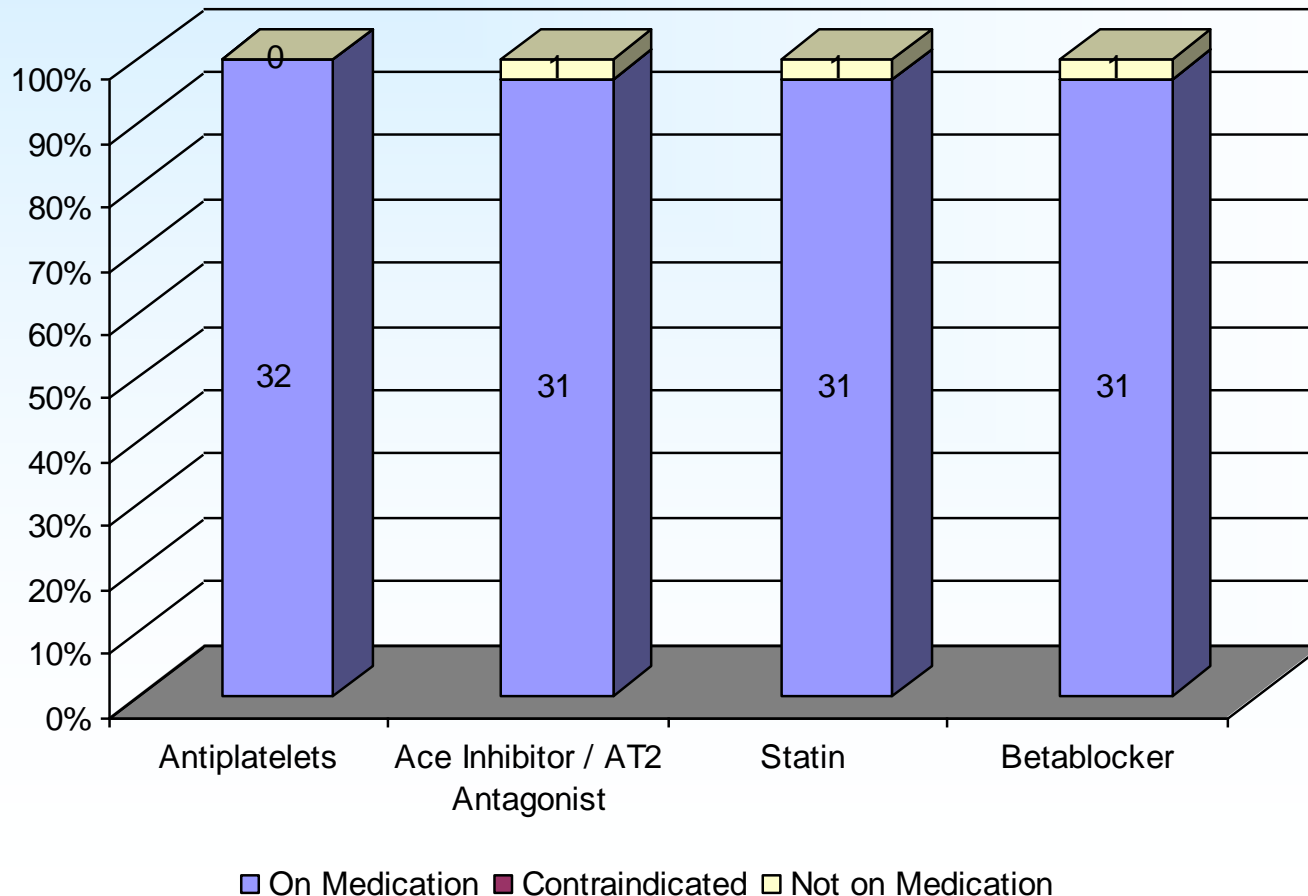
Results – Retrospective Review

- N = 25 (19 isolated, 6 combined with valve procedure)



Results – Prospective Review

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



Results Overview

	Pre Intervention N=25	Post Intervention N=32	P-Value
Antiplatelet	1 (4%)	0	NS
Beta-blocker	1 (4%)	1 (3%)	NS
Ace- Inhibitor	8 (32%)	1 (3%)	0.007
Statin	0	1 (3%)	NS

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”.