

Secondary prevention in general practice — the Heartwatch Programme

Dr John Cox, GP Co-ordinator, Heartwatch, South-Eastern Area

Background

Ireland has the highest mortality rate from ischaemic heart disease in males and the third highest rate in females in the European Union. Heartwatch, the National Programme in General Practice for the Secondary Prevention of Cardiovascular Disease in Ireland, commenced in primary care in 2003 with the overall aim of reducing mortality and morbidity from this condition.

This programme was agreed by the Department of Health and Children, the Health Service Executive (or Health Boards as they were then known) and the Irish College of General Practitioners in collaboration with the Irish Heart Foundation. It is essentially implementing the secondary care recommendations of the report of the Cardiovascular Strategy Group, 'Building Healthier Hearts'.¹

At present, Heartwatch targets 20% of Irish general practice. Patients with a history of proven myocardial infarction (MI), coronary artery bypass graft or percutaneous transluminal coronary angioplasty are registered in the programme and followed up at quarterly intervals by their own GPs or practice nurses. Data on 90% of patients and quarterly continuing care visits are sent electronically from practices to an independent national data centre. The remaining 10% of practices make returns on paper.

The guidelines for secondary prevention as laid down in the Recommendations of the Second Joint Task Force of European and other Societies on Coronary Prevention² form the basis for Heartwatch. These guidelines were further emphasised in the report of the Third Joint Task Force of the European and other Societies on Cardiovascular Disease Prevention in Clinical Practice,³ published after Heartwatch had already got underway.

The main report from Heartwatch was published in December 2004,⁴ based on data gathered up to September 2004 with an update on the Heartwatch website based on data up to March 2005.⁵ These reports provide very useful information on the efforts of GPs in the area of secondary prevention of heart disease.

Registration details demonstrated that almost three-quarters

of patients (73.5%) were male and that only less than one-fifth (14.1%) were under 55 years of age and that over half of patients (54.3%) had suffered an acute MI, the remainder having undergone bypass grafting or coronary angioplasty.

The main strategies involved in secondary prevention Heartwatch are:

- Lifestyle changes such as smoking cessation, weight reduction, increasing physical activity and dietary advice.
- Prescribing drugs of benefit in secondary prevention.
- Management of hypertension, hyperlipidaemia and diabetes.

Smoking

It may come as a surprise to some to learn that 13.4% of Heartwatch patients smoked on registration. There was a statistically significant fall to 12.1% some 12 months later. By the sixth visit, 10% were still smoking (see Table 1).

Anyone who survives a stay in a coronary care unit, takes part in a six week cardiac rehabilitation course and after all that tells his or her family doctor that they still smoke can only be described as a committed smoker! Yet, of all the healthcare professionals, the GP is best situated to influence this smoker's behaviour. Printed leaflets from the Health Promotion Unit and the Irish Heart Foundation are very helpful here.

Table 1. Results from Heartwatch for systolic BP, cholesterol low density lipoprotein (LDL)-cholesterol and smoking. April 2005.

Risk factor target improvements:

Illustrates percentage of patients who attended six visits with optimum risk factor control.

	1st Visit (%)	4th Visit (%)	6th Visit (%)
Systolic BP	57	62	66
Total cholesterol	84	90	93
LDL cholesterol	67	75	81
Non-smokers	87	89	90

Weight management

Over three-quarters of Heartwatch patients were outside the target for body mass index (BMI) at registration. There was no statistically significant improvement one year later. The findings for waist circumference were similar where over 90% were outside the target and still outside it after four visits. The target for BMI is $<25\text{kg/m}^2$ and waist measurements should be $<80\text{cm}$ in women and $<94\text{cm}$ in men. Gradual weight reduction (1kg/week) is recommended. These details, along with useful dietary advice based on the food pyramid are incorporated in the leaflet 'Are you ready to lose weight?' available from the Irish Heart Foundation.

In some areas, there is access to community-based dietitians by doctors in Heartwatch. The dietitian comes to the practice and sees a number of Heartwatch patients. In addition, she will sometimes liaise with the practice nurse and give valuable support. Almost one-third (30.9%) of all Heartwatch patients were referred to a dietitian.

Physical activity

The target for physical activity in the post-MI patient is >210 minutes per week. This works out at 30 minutes of continuous aerobic exercise such as brisk walking, swimming or cycling per day. This is actually more exercise than many doctors take themselves!

Some care is required in the prescription of exercise in patients recovering from a recent MI. The level of physical activity is gradually increased, ideally while the patient is still attending a phase three cardiac rehabilitation programme and subsequent progress monitored by the GP. In some cases, a treadmill exercise test may be required to establish what the patient can manage.

About 65% of Heartwatch patients were outside the target for exercise at the fourth visit, although some of these may have had angina pectoris or some other complicating factor. Again, the leaflet 'Get active for a happy heart' from the Irish Heart Foundation is helpful.

Dietary advice

All patients post-MI should receive professional advice on food choices to compose a diet associated with the lowest risk of recurrence of cardiovascular disease. This advice is then reinforced by the GP, often with the assistance of a community-based dietitian. As already stated, almost one-third (30.9%) of all Heartwatch patients were referred to a dietitian. The leaflet 'Good eating for a happy heart' from the Irish Heart Foundation is helpful.

General recommendations given in the Third Task Force document form the basis for the dietary advice given to Heartwatch patients and include:

- Foods should be varied and energy intake adjusted to maintain ideal body weight.
- The consumption of fruit and vegetables, whole grain

cereals and bread, low fat dairy products, fish and lean meat should be encouraged.

- Oily fish and omega-3 fatty acids have particular protective properties.
- Total fat intake should account for no more than 30% of energy intake, and intake of saturated fats should not exceed one-third of total fat intake.

Aspirin, antiplatelet and anticoagulant medication

Aspirin (at least 75mg) or another platelet-modifying drug is recommended in all patients post-MI. The dose of aspirin recommended by the British National Formulary for the secondary prevention of thrombotic cardiovascular disease is 75-150mg daily. In practice, most GPs use the lower dose of 75mg.

Enteric-coated tablets are sometimes used to reduce the risk of gastrointestinal (GI) side effects. If these are a problem, consideration is given to prescribing a low dose of a proton pump inhibitor with the aspirin in this group of patients. Where patients post-MI cannot tolerate aspirin or it is contraindicated, other antiplatelet drugs such as clopidogrel (Plavix) are considered and used in the 5-10% of patients with true aspirin intolerance.

In Heartwatch, the majority of patients (96%) were on aspirin, anticoagulant or antiplatelet medication by the fourth visit.

β -blockers

β -blockers are recommended in all Heartwatch patients following acute MI (unless contraindicated or not tolerated). A number of trials have been carried out (most of which were performed before the introduction of thrombolytic therapy) involving more than 19,000 patients investigating the effects of various β -blockers post-MI. Pooled data from these trials suggest a 25% reduction in the risk of non-fatal reinfarction and a 20% reduction in the risk of death. β -blockers without partial agonist activity (e.g. atenolol and metoprolol) are generally used and an adequate dose to reduce the resting heart rate is usually given.

In Heartwatch, where over half the patients had an MI, 58.3% were on β -blockers by the fourth visit.

Angiotensin-converting enzyme inhibitors

Angiotensin-converting enzyme (ACE) inhibitors are recommended in all Heartwatch patients with symptoms or signs of heart failure at the time of MI, or with persistent left ventricular systolic dysfunction (ejection fraction $<40\%$).

Overall, evidence supports long-term use of an ACE inhibitor in all patients following MI. The dose is titrated rapidly to that used in the trials. Like β -blockers, they are also of benefit in treating hypertension in this patient group. Over 48% of Heartwatch patients were on ACE inhibitors at the fourth visit.

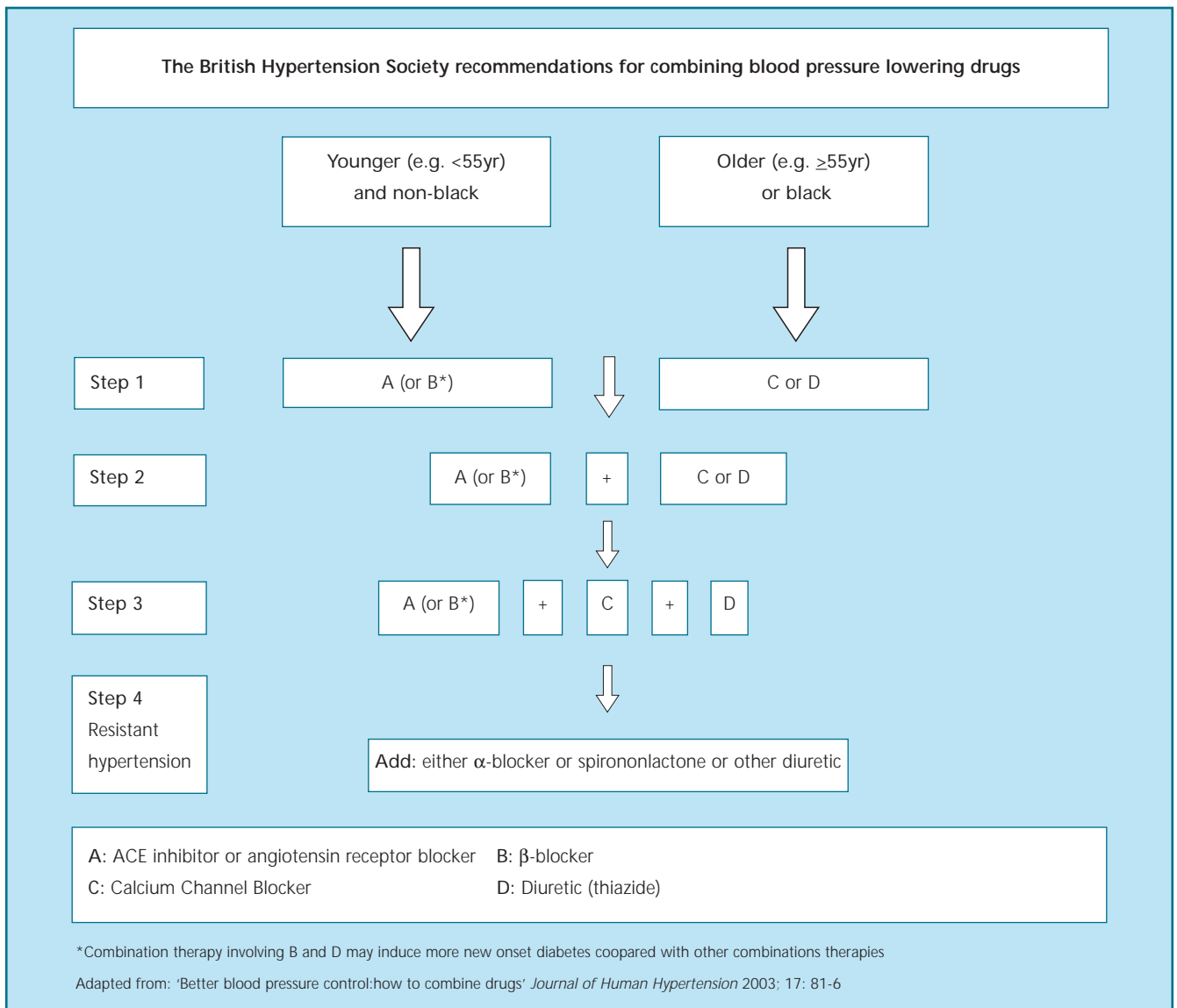


Figure 1. Recommendations for combining blood pressure-lowering drugs (AB/CD rule).

Blood pressure management

Most GPs involved in Heartwatch use the AB/CD treatment algorithm from the British Hypertension Society (BHS) guidelines for hypertension management 2004,⁶ which provides advice on the sequencing of drugs and logical drug combinations (see Figure 1).

It is worth keeping in mind that, while systolic pressure continues to rise with age, diastolic pressure levels out or even falls, especially after the age of 50. In Heartwatch, only less than one-fifth were under 55 years of age and, for this reason, most patients had isolated systolic hypertension (where systolic pressure is raised in the presence of normal or near normal diastolic hypertension). Thus, while 44.1% of patients had systolic pressures ≥140mmHg at registration, only 14.7% had diastolic pressures ≥90mmHg.

Control of blood pressure in the post-MI patient begins with making sure that patients are already receiving β-blocker and ACE inhibitor treatment in the correct doses (unless contraindicated or not tolerated). The Irish Heart Foundation

leaflet 'What is blood pressure all about?' is particularly helpful.

Additional therapy in this group of patients is usually with a thiazide diuretic (e.g. bendrofluzide 1.5-2.5mg daily) often prescribed as a combination preparation with a β-blocker, thereby reducing the number of tablets. Unfortunately, the frequency of new-onset diabetes is increased in patients on the combination of a β-blocker and thiazide when compared with regimens based on newer therapies, such as ACE inhibitors, angiotensin receptor blockers and calcium channel blockers. To date, we do not have data on the frequency of new-onset diabetes in Heartwatch patients on the combination of a β-blocker and thiazide.

One-third of patients in Heartwatch still had not achieved target systolic blood pressure levels of 139mmHg or less by the sixth visit (see Table 1). We do not know how many of these were on three or more drugs, however.

Lipid management

Management of lipid abnormalities in the post-MI patient has

been shown to be lifesaving. The Third Task Force document recommends goals of total cholesterol <4.5mmol/l and LDL-cholesterol <2.5mmol/l in patients with established cardiovascular disease. Due to the fact that this information was not available when Heartwatch was launched, the targets used in Heartwatch are those from the Second Task Force document, namely a total cholesterol <5mmol/l and LDL-cholesterol <3.0mmol/l. The leaflet 'A healthy cholesterol for a happy heart' from the Irish Heart Foundation is helpful here.

In Heartwatch, total cholesterol was outside target at the sixth visit in only 7% and LDL-cholesterol in 19% (see Table 1). A total of 82.8% of patients were on a statin at the fourth visit.

Diabetes control

In the Third Task Force document, the treatment target for diabetic patients with established cardiovascular disease is a HBA1C of $\leq 6.1\%$. Due to the fact that this information was not available when Heartwatch was launched, the targets used in Heartwatch are those from the Second Task Force document, namely a HBA1C of 6.5%. In Heartwatch, by the fourth visit 68.4% of patients were outside this target.

Conclusion

Effective secondary prevention is a challenge to all GPs who, after all, are in the best position to manage this problem. Appropriate attention to lifestyle changes, such as smoking cessation, weight reduction, increasing physical activity and dietary advice, the prescribing of drugs of benefit in secondary prevention and management of hypertension, hyperlipidaemia and diabetes in patients with a history of MI will save many lives in the years to come. To do this, a structured programme such as Heartwatch is essential.

References

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