

Protecting your patient's heart

Practical points from the Joint European Societies' Recommendations on the Prevention of Coronary Heart Disease in Clinical Practice

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Introduction

In 1994, the European Society of Cardiology, European Atherosclerosis Society and European Society of Hypertension published the first edition of 'Prevention of Coronary Heart Disease in Clinical Practice'. This was a landmark publication because it was the first time that these bodies had issued an agreed joint document. This was updated and revised in 1998, and the parent bodies were joined by the International Society of Behavioural Medicine, the European Society of General Practice/Family Medicine, and the European Heart Network, thus broadening the degree of agreement and authority of the recommendations.

The Joint Task Force aimed to summarise the important clinical issues regarding coronary heart disease (CHD) prevention, and to make prevention easier for medical practitioners. Nevertheless, the final report covers 69 pages and 475 references and it is extremely unlikely that it will ever be read in its entirety by most practitioners. This article will endeavour to summarise a few key points of the recommendations.

Objectives of coronary heart disease prevention

The overall objective of coronary heart disease prevention is to reduce the risk of major coronary heart disease or other atherosclerotic disease events, and thereby reduce premature disability and death. Two key aspects to achieving these objectives are the concept of total risk and the establishment of risk factor targets.

Total risk

In estimating CHD risk in an individual, it is important to consider all risk factors simultaneously; this is because CHD is multifactorial in origin. Risk factor guidelines have been traditionally concerned with unifactorial assessment (for example, in the management of hypertension or

hyperlipidaemia), which has resulted in undue emphasis being placed on individual risk factors instead of on the overall level of risk based on a combination of risk factors. Since clusters of risk factors may have a multiplicative effect, an individual with a number of modest risk factors may be at considerably greater risk than an individual with one very high risk factor. Therefore, total risk estimation is of fundamental importance in CHD prevention – physicians deal with the whole patient, rather than one aspect of risk.

For example, a 50 year old man with a cholesterol level of 7mmol/L but no other risk factors carries a 10 year CHD risk of about 10%. In contrast, a similar 50 year old man with a lower cholesterol of 6mmol/L may have a risk of over 40% if he has modest hypertension (140/80), smokes, and has already had a clinical CHD event.

Understanding total risk is of little value unless one can estimate it readily. To this end, the coronary risk chart (see pull-out) has been developed.

Rationale for the prevention of coronary heart disease

Practical CHD prevention is now a reality, with a firm and logical basis. This statement is based upon the following:

1. CHD remains the leading cause of death in the middle-aged and elderly in Europe.
2. The underlying atherosclerosis develops slowly and is usually advanced when symptoms occur.
3. Most CHD deaths occur outside hospitals.
4. Therefore most treatments are either palliative or cannot be applied.
5. CHD is strongly related to lifestyle characteristics and associated risk factors.

6. Lifestyle and risk factor modification have been shown to unequivocally reduce both CHD and total mortality.

Despite the above considerations, little enthusiasm has been exhibited for practical prevention compared with treatment to date. However, now that there is evidence that preventative measures work, professional attitudes are changing and most practitioners now regard knowledge of preventative practices to be an essential part of their professional lives.

Strategies for CHD prevention

Comprehensive CHD prevention includes three components. The first is a population strategy that alters the lifestyle and environmental factors in the entire population, and their social and economic determinants. These are the underlying causes for the mass occurrence of CHD. The second identifies high risk individuals and recommends action to reduce their risk factor levels. The third aims at the prevention of recurrent CHD events and of the progression of disease in subjects with clinically established CHD.

For the clinician, the 'take home' message is that both individuals with established disease and those at high risk gain most from risk factor modification. However, from a public prospective, it should be noted that most deaths occur in subjects with only modestly increased risk factor levels because these subjects are much more numerous. Therefore, a high risk strategy for clinicians and a community-based public health strategy are both needed to deal with the CHD epidemic.

Priorities for clinicians

Arising out of these issues, the priorities for CHD prevention for practising doctors are as follows:

1. Patients with established CHD or other atherosclerotic disease.
2. Healthy individuals who are at high risk of developing CHD or other atherosclerotic disease, because of a combination of risk factors, or because of severe hypercholesterolaemia or other forms of dyslipidaemia, hypertension or diabetes.
3. Close relatives of patients with early onset CHD or other atherosclerotic disease, and of healthy individuals at particularly high risk.
4. Other individuals met in connection with ordinary clinical practice.

It should be stressed that the coronary risk chart applies to people who do not have overt evidence of vascular disease. Those who have already had a vascular disease event will mostly be at over 40% risk of a further event over the next decade. For those without symptoms,

a high risk individual is defined as one whose 10 year CHD risk exceeds 20%, or will exceed 20% if projected to age 60. It is at this level of risk that randomised control trials indicate very substantial benefit from intensive risk factor modification.

Risk factor targets

Many other risk factor recommendations have adopted varying targets depending on the overall level of risk. For the European recommendations, it was decided to adopt a single set of targets, but with the suggestion that the higher the risk, the harder one strives to achieve these targets. Practical experience has indicated that they can be achieved in the majority of individuals.

The major risk factor targets are:

Lifestyle

To stop smoking, reduce total fat (principally saturated fat) intake and be physically active.

Other risk factors

Blood pressure under 140/90.

Total cholesterol under 5.0mmol/L.

LDL cholesterol under 3.0mmol/L.

It is further suggested that close relatives of patients with premature (men under 55 years, women under 65 years) CHD should be screened for coronary risk factors.

Drug therapy

The general rule is the higher the risk, the lower the threshold for drug therapy. If one cannot decide whether to use medication for a raised cholesterol or blood pressure level (for example), one would be swayed towards doing so if the total risk is over 20%. For those with established CHD, almost all will be on aspirin. Many of those with angina and most of those who have had a myocardial infarction will receive beta-blocking drugs. High risk subjects, particularly those with left ventricular dysfunction, will also be taking ACE inhibitors and many will be on lipid lowering therapy to achieve the above targets.

Conclusion

Practical CHD prevention is now a reality. For busy family practitioners, it is suggested that it is reasonable to try and identify the highest risk subjects first and to work hardest with them, but to aim, if possible, to know the risk status of everyone in one's practice. Total risk estimation is used to guide an individualised management strategy, aiming as far as possible to achieve the targets defined above. Having said that, even suboptimal reductions in risk factors can very substantially reduce total risk.

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