

## Cardiovascular: Coronary Heart Disease – The Treatment Gap

Coronary heart disease (CHD) is the leading cause of morbidity and mortality in developed countries. Two of the major cardiovascular risk factors are high blood pressure and high cholesterol. A wealth of data has been published to show that identifying and treating patients with these risk factors plays an essential role in the prevention of CHD. Such data has led to guidelines being put in place so as to aid clinicians in the best management of their patients' care. However, it is apparent that despite such clear evidence based guidelines, there is a treatment gap between evidence and practice. Studies show that many patients who are at risk of CHD who should be receiving treatment are not, while many others who are on treatment are not receiving treatment in line with recommendations.

### The Treatment Gap – High Blood Pressure

Morgan *et al.* (2005) studied data from public, medical, hospital, and pharmaceutical programs in British Columbia in order to determine trends in the use of thiazide diuretics compared with other more costly agents, as a first-line treatment to lower blood pressure among older (over 65 years of age), newly treated patients with hypertension. Patient age, sex, overall clinical complexity and potentially relevant co-morbidities were taken into account. For the period 1993 to 2000 over 82000 older patients who had diagnoses of hypertension were identified as new users of hypertension drugs. The results showed only around one-third patients received thiazide diuretics as first-line treatment, despite clear evidence that use of thiazide diuretics reduces cardiovascular morbidity and mortality. Women rather than men, and older rather than younger patients, were more likely to receive first-line thiazide therapy.

Compared with newer agents such as angiotensin receptor blockers and calcium antagonists, thiazides remain the cheapest blood pressure lowering agents, costing less than \$0.01/day. Therefore, as long as thiazides remain at least equivalent to other blood pressure lowering agents in terms of reducing cardiovascular mortality and morbidity, Morgan and his colleagues concluded that their preferential use as a first-line therapy can be justified on the basis of their low cost.

### The Treatment Gap – High Cholesterol

Statins inhibit HMG-CoA reductase, a key enzyme in the cholesterol synthesis pathway. However, not all patients who may benefit from the use of statins receive them. Ma *et al.* (2005) examined data from the United States national survey data collected over a ten-year period (1992 – 2002) to obtain estimates of statin use among patients categorized by their risk of coronary heart disease

and presence/ absence of hyperlipidaemia. Over this period of time, statin use by patients with hyperlipidaemia (as recorded by the number of patient visits), increased significantly from 9% of patient visits in 1992 to 49% of patient visits in 2000, declining to a rate of 36% in 2002. Therefore, even at the point of highest uptake, only about half the patients were receiving treatment.

Even more striking are the results for the use of statins in patients categorized by their cardiovascular risk. Among patients at high risk, the absolute maximum proportion of individuals receiving treatment at the end of the ten-year review period (i.e., in 2002) was only 19%. Additional analyses suggest that lower statin use in at-risk patients was associated with younger age, female gender, African-American background, and care by non-cardiologists.

Although the study conducted by Ma and his team was funded by a maker of one of the statins, the information acquired is of general interest. As the study's authors note, persistent gaps in statin therapy suggest a need for improved identification of patients who may develop CHD, and treatment with statins when indicated. A particular focus should be patients who are at risk of developing CHD. Education should be aimed at improving the practice of physicians—above all, those who are not heart specialists—so that they adhere to evidence-based medicine and published guidelines for cardiovascular risk reduction.

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