Secondary Prevention of Ischemic Heart Disease: Closing the Gap

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Compelling evidence has accumulated during the last few decades on ways to prevent or delay the occurrence of atherosclerotic cardiovascular disease and its complications. Big strides have been made in basic and clinical research towards prolonging life and improving its quality, enabling early identification and effective treatment of risk factors for cardiovascular disease and coronary heart disease in particular. These advances led, in the last 30 years of the 20th century, to an increase in life expectancy of 4 years in the United States, attributable to improvements in prevention and treatment of complications in patients suffering from cardiovascular disease [1]. One, if not the most important, approach that led to this achievement is the lowering of low density lipoprotein-cholesterol by HMG-CoA reductase inhibitors – namely statins, that have been available since the early 1980s. Several seminal randomized controlled studies have been conducted and published during the last decade, establishing beyond doubt the effectiveness of such treatment in both primary [2,3] and secondary prevention [4] of cardiovascular disease. Indeed, it is incomprehensible that it took so many years for them to be implemented. Dr. Claude Lenfant, former director of the National Heart Lung and Blood Institutes, in his Shattuck lecture: "Clinical Research to Clinical Practice – Lost in Translation?", published in the *New England Journal of Medicine*, concentrates on this failure in translating sound research findings into medical practice and personal behavior [1]. He cites the U.S. National Committee for Quality Assessment report of 1999, which showed that only half to three-quarters of patients who had myocardial infarction were even being screened for elevated blood cholesterol levels, much less prescribed cholesterol-lowering agents. In the Israeli HOLEM study, conducted during the same year and published in this issue of IMAJ, the findings were similar [5].

These observations are supported also by studies conducted during the same period in nine European countries (EUROASPIRE II 1999-2000) [6], and by the U.S.-based HER study [7], which reported similar low rates of adherence to these guidelines, 63% and 53% respectively.

Since the HOLEM study, which was conducted during the late 1990s and early 2000s, new knowledge has been added, liberalizing the indication for statin treatment by lowering the threshold [8], starting therapy earlier [9], and intensifying the dose to achieve lower target values (below 70 mg/dl) [10,11]. In addition, the importance of the pleiotropic effects of statins has become evident, namely lowering inflammatory markers such as C-reactive protein [12–14], strengthening further the indication for using statins to treat most, if not all, patients suffering from ischemic heart disease.

The main reasons for the existing gap between evidence-based clinical investigations and clinical practice reside in both the healthcare providers and the patients. It is the responsibility of the medical profession to ensure that patients are the beneficiaries of the tremendous progress being made in medicine today.

Although the situation has improved since the reports from the late 1990s, both worldwide and in Israel [15,16], much remains to be done. The management of acute coronary syndrome in the Israeli survey (ACSIS) has been surveyed prospectively by the Israel Heart Society and recorded bi-annually in all departments of cardiology in Israel since the early 1990s. Between 2000 and 2002, lipid-lowering therapy for patients at discharge increased from 47% to 65% respectively. These results show a marked improvement but are still far from the expected optimum, since early and intensive statin therapy results in early reduction in adverse cardiac events in patients with acute coronary syndromes, which is sustained over the years. These benefits result from a combination of early pleiotropic effects (modulation of inflammation, endothelial function, coagulation) and long-term effects on the atheroma size. Therefore, it is the responsibility of physicians in the hospitals (cardiologists and internists) and in the community (primary care physicians, the medical departments of the health maintenance organizations), as well as the Ministry of Health, to implement quality assurance measures, adhere to guidelines, and increase the prescription rate of statins in both secondary and primary prevention of cardiovascular disease. These should include measures to increase the compliance of physicians with established and available clinical practice guidelines, as well as the translation of the new knowledge into guidelines by policy makers and managers of the healthcare system.

In addition, it is the responsibility of the leading Israeli medical professional associations, such as the Israel Heart Society, to lead the way in translating new knowledge into practice guidelines. Consequently, it is the responsibility of healthcare organizations, including the Ministry of Health, to implement quality assurance surveillance to assess the quality of care and service, as was initiated last year by the Israel Ministry of Health (National Quality Measures). It is their joint responsibility to promote and assure that physicians abide and comply with these guidelines. Finally, it is the responsibility of all healthcare providers, including the

HMOs, to ensure that patients comply with the prescribed medication regimens by implementing health promotion programs.

In conclusion, in order to exploit the opportunities provided by novel biomedical research and to fulfill our patients' expectations, it is our obligation to initiate statin therapy as soon as possible and at the appropriate dosage to achieve the full benefit of this highly effective and miraculous drug, particularly for patients suffering from acute coronary syndromes [17].

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HMO = health maintenance organization

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