LIPID-LOWERING THERAPY AND PROGRESSION OF CORONARY ATHEROSCLEROSIS

Developments in Cardiovascular Medicine

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Lipid-lowering Therapy and Progression of Coronary Atherosclerosis

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Introduction

The introduction of a highly effective lipid lowering class of drugs, the HMG-CoA reductase inhibitors, has given a strong impulse to new research designed to determine the clinical and pathological–anatomical effects of lipid lowering in patients with coronary atherosclerosis. New developments in computer-assisted quantitative analysis of coronary arteriograms have made it possible to determine with great precision the morphology of atherosclerotic lesions and time-related changes in the coronary arteries assessed by sequential coronary arteriographic examinations.

Recently, several large lipid intervention studies using repeated quantitative coronary arteriography have been reported. These studies have provided essential information about the anatomical–pathological consequences of lipid lowering in man and have led to a better understanding of the clinical effects.

Almost all studies have shown a beneficial effect of lipid lowering therapy; however, differences in patient selection, study design and arteriographic methods make it difficult and, to a certain extent, impossible to compare the outcomes of different studies. Yet, by careful comparison of all arteriographic trials it may be possible to determine more accurately what currently may be considered proven, which hypotheses should be rejected, and which aspects merit further investigation. To make an in-depth comparison of studies possible the ‘Koninklijke Nederlandse Academie van Wetenschappen’ (Royal Netherlands Academy of Sciences) together with the Netherlands Heart Foundation has given the Interuniversity Cardiology Institute, the Netherlands (ICIN) the opportunity to organize a meeting of the principal investigators of all lipid intervention trials using anatomical changes demonstrated by coronary arteriography as the primary endpoint. Sponsorship was also obtained from the Wijnand M. Pon Foundation and an educational grant from Bristol Meyers Squibb.

The meeting was held October 3–4, 1994, at the KNAW headquarters in Amsterdam. A brief overview of each trial was presented, emphasizing the specific merits and limitations of each study. Possible mechanisms by which lipid lowering may influence progression or regression of atherosclerosis were discussed and methodological aspects, especially those relating to quantitative coronary arteriography and biochemical aspects, were critically reviewed.

We wish to thank the participants for submitting their manuscripts, which contain new information and express personal views that cannot be found in

regular publications. They contribute significantly to a better understanding of the role of lipid lowering therapy and indicate new directions for future research.

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