

## FOREWORD

Cardiovascular diseases are the main cause of death in western countries. The most frequent risk factors are hypertension, dyslipidaemia, obesity, smoking, insulin resistance and metabolic syndrome.

This supplement is dedicated to the role of atherosclerosis in the production of vascular lesions, with the involvement of inflammatory factors secondary to the accumulation of leucocytes and the liberation of inflammatory mediators. The endothelial lesions that precede atherosclerosis can be produced by an increase in reactive oxygen species (ROS), production of proinflammatory cytokines, tumour necrosis factor  $\alpha$  and degradative enzymes.

To control these lesions, a number of strategies to reduce inflammatory changes have been proposed. One comprises non-pharmacological interventions such as loss of body weight, increase in physical activity, reduction of saturated fatty acids in the diet, low calorie diet, etc. Vitamins E and C have been shown to reduce the oxidation of LDL cholesterol and adhesion of leucocytes to the endothelium.

Pharmacological intervention to treat atherosclerosis consists firstly of the administration of statins to reduce serum total cholesterol, and also of the partial agonism of peroxisome proliferator activating receptors  $\alpha$  and  $\gamma$ . Angiotensin II inhibitors (angiotensin-converting enzyme inhibitors, angiotensin II type 1 receptor blockers), besides their antihypertensive effects, are able to reduce the proatherogenic and proinflammatory effect of angiotensin II. Anti-inflammatory drugs, both steroidal and non-steroidal, are also useful, with aspirin being the drug most frequently used to treat these patients.

Recently, the results of the Anglo-Scandinavian Cardiac Outcomes Trial (ASCOT) have been published, comparing atorvastatin with placebo in patients with average cholesterol concentrations but at high risk for cardiovascular adverse events. The atorvastatin arm produced a clear reduction in primary endpoints (non-fatal acute myocardial infarction and fatal coronary artery disease) and the safety committee stopped the trial prematurely.

The authors of this supplement are great experts in the field of atherosclerosis and hypertension. The data published here are very interesting and of high scientific value. I am sure that doctors interested in this field will find the Supplement useful and attractive, and it will contribute to the facilitation of their clinical practice.

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