There is now considerable evidence demonstrating that myocardial infarction, sudden cardiac death, transient myocardial ischaemia, and stroke manifest a circadian variation, that is, they occur more frequently in the morning hours. The connection between the circadian rhythm of these events and the initiation of the pathological processes leading to each of them is complex and not clearly understood. It is likely, however, that increases in sympathetic nervous activity, heart rate and platelet aggregability, together with an increase in coronary tone and higher blood pressure, are intimately involved.

The importance of circadian variations in cardiovascular disease has led to a growing acceptance among clinicians that effective therapy for myocardial ischaemia and hypertension should provide complete protection over the full 24-hour period. Although calcium antagonists are now widely used to treat these conditions, it has been difficult to achieve this therapeutic goal with the first-generation compounds, nifedipine, verapamil and diltiazem. This is because, despite good efficacy, these agents are limited by their pharmacokinetic profile. A short elimination half-life and low oral bioavailability coupled with a rapid absorption rate result in multiple daily dosing requirements and unpleasant vasodilator-related side effects which may reduce patient compliance. If patient compliance is poor, the problems of providing 24-hour antihypertensive or antianginal treatment are compounded.

It is generally accepted that patient compliance with a particular treatment regimen improves when fewer doses need to be taken. Although longer-acting 1,4-dihydropyridine calcium antagonists and slow-release formulations of nifedipine, verapamil and diltiazem are available, continuous 24-hour efficacy with once-daily administration of these agents is very formulation-dependent and is not always successful. Amlodipine is a new, intrinsically long-acting calcium antagonist of the 1,4-dihydropyridine class which is well tolerated and provides 24-hour calcium entry blockade following once-daily administration.

In addition to recognizing the importance of patient compliance in cardiovascular therapy, the data presented at this symposium have demonstrated the sustained antianginal and antihypertensive effects of once-daily amlodipine, and the relatively low incidence of side effects associated with this drug. These properties make amlodipine a good choice of treatment which may improve patient compliance.