Friday, May 21, Broadway Ballroom, 8:00 AM
Plenary Session II: Dietary Sodium: Ad Lib or Restricted?
Salt, Basic Science and Clinical Implications
The 'Pro' Argument
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As health care systems come under increasing pressure from scientific advance, the public health agenda becomes increasingly important. Reducing cardiovascular disease without using drugs is clearly attractive if this can be achieved at a low social and economic cost. The difficulty is that evidence of effectiveness for population strategies may be weaker and it may be necessary to extrapolate from epidemiological associations and surrogate measures. This makes informed public debate all the more important. Population advice also however has to be clear and persuasive. The evidence on salt intake has become clearer in recent years. Reducing salt intake has little effect on the blood pressure of healthy normotensive people. Claiming a scientific consensus to the contrary in the interests of public health is likely to be counter-productive, undervalues public intelligence, and threatens to impair the credibility of more evidence-based advice.

Key Words: Salt, Blood Pressure, Cardiovascular Disease

Friday, May 21, Broadway Ballroom, 10:30 AM
Theme II: New Predictors of Risk
HEART RATE: A FORGOTTEN CARDIOVASCULAR RISK FACTOR

A number of studies have shown that elevated heart rate measured in resting conditions is associated with a greater risk of developing hypertension and arteriosclerosis and that it is a potent predictor of cardiovascular morbidity and mortality. These associations have been shown to occur not only within general populations but also among elderly subjects, hypertensive individuals, and patients with acute myocardial infarction. In spite of this evidence, the clinical role of heart rate has long been neglected. Although heart rate is a primary determinant of blood pressure, it is also an important independent variable which should be taken into account in assessing and managing cardiovascular risk. A direct relationship has been shown between heart rate and cardiovascular events. The strong association between heart rate and blood pressure, and for the metabolic disturbances present in subjects with congestive heart failure suggests that drug-induced reduction of heart rate may be beneficial in several clinical conditions. However, the fact that in most studies the risk related to fast heart rate remains highly significant after controlling for major risk factors for arteriosclerosis indicates that heart rate plays a direct role in the induction of the risk. Experimental studies in monosodium-fed monkeys have shown that reduction of heart rate with propranolol or by ablation of the sino-atrial node could retard the development of coronary lesions suggesting that the hemodynamic disturbances related to high heart rate have a direct impact on the arterial wall. Moreover, the clustering of heart rate with blood pressure and the other risk factors mentioned above suggests that tachycardia is a marker of heightened sympathetic activity. Sympathetic overactivity can cause insulin resistance through stimulation of both alpha- and beta-adrenergic receptors and seems, thus, to be responsible for the increase in heart rate and blood pressure, and for the metabolic disturbances present in subjects with tachycardia. Furthermore, the strong association between tachycardia and sudden death found in the Framingham and the CASTEL studies points to a role of sympathetic overactivity and decreased vagal tone in favoring the occurrence of life-threatening ventricular arrhythmias. Preliminary results in the experimental animal and pooled data from intervention studies in post-myocardial infarction patients and in subjects with congestive heart failure suggest that drug-induced reduction of heart rate may be beneficial in several clinical conditions.

Key Words: tachycardia, sympathetic nervous system, cardiovascular risk, insulin resistance.