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Epidemiological aspects of coronary artery disease

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This century experienced the eradication of some diseases, mainly infectious, but, on the other hand, the increment of the so called degenerative disorders. One of the most striking examples was the increment in the incidence of coronary artery disease (CAD), the leading cause of death in many countries at the end of the century.

Mortality from CAD increased rapidly reaching a peak in the sixties. Recent reports showed that today over 500,000 deaths annualy are related to CAD in the USA. The prevalence of CAD in this population is 3.1%, generating an economic impact estimated in 43 billion dollars.

Epidemiological studies concluded that CAD prevalence is greater in males and in whites that there is an increment in the female incidence after menopause. Moreover, these studies figured out the risk factors for the disease. The control of the risk factors contributed for the decline in the mortality from CAD observed in the last years.

Improvement in medical technology, better comprehension of the pathophisiologic machanisms involved in the genesis of acute myocardial infarction and the possibility to restore blood flow with thrombolytic agents also contributed to the decrement in mortality. It was also suggested that this decrement could be explained by a reduction in the incidence of the disease.

All these events may provoke changes in epidemiological characteristics of the disease. Moreover, the recent decrement in risk factors prevalence was not equally observed from gender and economic points of view. Official reports revealed a reduction in the prevalence of smoking in Brazil. However, this reduction is more important in men than in women.

In the USA, the 25th Bethesda Conference: Future Personnel Needs for Cardiovascular Health Care concluded that 10 to 15% of the country population does not have any kind of medical care and has no benefit from the prevention programs. Approximately 35.4 million US citizens are without hospitalization or health insurance, including unemployed persons, welfare recipients and the working poor. The Afro-Americans comprise 12% of the population and are the largest minority group. A large percentage of this population receives substandard or no cardiovascular care, and 25 to 35% have no health insurance or inadequate coverage. The Latinos comprise the second largest minority group in the US. In this group, 50% of the population has no health insurance.

With this background I will not be surprised to find a CAD population with different characteristics from some years ago. Indeed, Pepine and cols., studying a population of 5,125 outpatients with CAD diagnosis found a majority of women and elderly with high rates of associated illness, rest and mental stress-related angina. They concluded that this information is important to advance our understanding of the natural history of CAD, to help select appropriate diagnostic strategies and therapeutic interventions, and to accurately assess the possible beneficial and adverse effects of attempts to improve the health of our changing population.

To analyze this situation in our community, we studied the characteristics of the population CAD in a tertiary Hospital, the Instituto do Coração do Hospital das Clínicas da Faculdade de Medicina da USP (InCor) in the last years. Data were collected from the Hospital data base.

To obtain good quality data we divided the search strategy in two parts: in the first one data were obtained from patients with the diagnosis of acute myocardial infarction admitted from January 1981 ro May 1994. This group was called ACUTE as the acute form of CAD.

In the second part, data were obtained from patients with the diagnosis of coronary artery disease submitted to coronary artery bypass surgery. Patients showing the concomitant diagnosis of acute myocardial infarction were excluded from this group. Although representing a reduction in the population and probably a bias, this strategy was adopted for this

group to guarantee quality and uniformity of the data obtained. This second group was denominated CHRONIC, as the chronic form of CAD. In this group patient data were collected from January 1984 to May1994.

Age, gender, mortality and race were obtained for both groups population. For age, patients were divided in subgroups: from 20 to 40 years old, from 41 to 60 years old and greater than 61 years. For race, patients were classified as whites and non whites. Annual distributions were analyzed for significant changes in time.

There were significant changes in age and gender annual distributions ($p<0.001$ and $p=0.003$ respectly for ACUTE and $p<0.001$ for CHRONIC) Patients admitted to the Hospital in Both acute and chonic forms of the disease are older and there are more women than a decade ago.

Our study, together with previously discussed studies, supports the hypothesis that the population of CAD patients is changing. Therefore, strategies for risk factors control and primary medical care should be modified to this new reality.