



Changing epidemiology of ischemic heart disease

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Over the last 30 years considerable progress has been made in the treatment of ischemic heart disease (IHD). However, population studies confirm that the problem is far from being solved, and IHD remains the leading cause of morbidity and mortality in industrialized countries.

Several factors limit the efficacy of available treatments, including major changes in the clinical profile of ischemic patients. Compared with the past, today's patients tend to be older, to have undergone revascularization procedures, and more often to have co-morbidities, including heart failure and diabetes.

Patient age

The prevalence of coronary artery disease (CAD) increases with advancing age, representing the major cause of mortality, morbidity, and disability in the elderly. Elderly patients have a higher incidence of multi-vessel coronary disease, and often show a decrease in left ventricular function. Furthermore, elderly patients are often excluded from revascularization procedures, leaving medical treatment as the only therapeutic resource. Unfortunately, in the elderly, there is a higher risk of drug interaction, and a higher incidence of adverse effects due to altered pharmacokinetics secondary to renal and hepatic dysfunction. Compliance is also a common issue with older patients.

Diabetes

The prevalence of diabetes is growing rapidly. From 1994–2002, the age-adjusted prevalence of diabetes increased 54.0% for adults (from 4.8% to 7.3%) in the United States. The prevalence of diabetes for all age groups worldwide was estimated to be 2.8% in 2000 and a projected 4.4% in 2030. The total number of people with diabetes is projected to rise from 171 million in 2000 to 366 million in 2030. In diabetics, coronary revascularization procedures have been shown to have a lower success rate and a higher rate of complications than in non-diabetics, again stressing the need for more effective drugs.

Heart failure

Heart failure (HF) incidence approaches 10 per 1,000 in the population after age 65. About 22% of male and 46% of female heart attack (MI) victims will be disabled with HF within 6 years, including patients revascularized in the acute phase.

After HF is diagnosed, survival is poorer in men than in women, but fewer than 15% of women survive more than 8–12 years. The 1-year mortality rate is high, with 1 in 5 dying. In people diagnosed with HF, sudden cardiac death occurs at 6–9 times the rate of the general population. From 1993–2003, deaths

Editorial

Mario Marzilli

from HF (International Classification of Diseases code 428) increased 20.5%. In the same time period, the death rate declined 2.0%. The 2003 overall death rate for HF was 19.7%. The presence of HF limits anti-anginal drug selection and multiplies prescriptions, with obvious compliance problems.

Post-percutaneous coronary intervention angina

Patients refractory to medical treatment are eventually referred for myocardial revascularization. Revascularization procedures are expected to improve symptoms and prevent death and myocardial infarction. Unfortunately, available data do not support this common belief. According to the data from the Bypass Angio-

plasty Revascularization Investigation, about 30% of patients never return to work following coronary revascularization, and 15% to 20% of patients rated their own health fair or poor despite revascularization. Percutaneous transluminal coronary angioplasty (PTCA) results in superior symptomatic relief of angina compared with medical therapy, but the difference is less than expected and narrows with time. Only a minority of patients are free from angina and antianginal medications after a revascularization procedure.

These are just some of the factors explaining why tailoring therapy to individual needs has become progressively more challenging in IHD. This issue of Heart and Metabolism focuses on these issues and offers clues to how we can deal better with this challenge.