Abstract

Longitudinal studies of well defined cohorts have contributed to the identification of risk factors of coronary heart disease and other clinical complications of atherosclerosis. After commenting on the conclusions of experimental atherosclerosis and risk factors suggested by the study of a series of myocardial infarction in young adults and their matched controls, we discuss the methodology, management and results of longitudinal studies carried out in the United States since 1949: Twin Cities, Framingham, Pooling Project, Western Collaborative, Puerto Rico Evans County, NI-HONSAN, San Francisco, Harvard, Bogalusa and CARDIA. Special attention is given to the hypothesis proposed at the beginning of the Framingham Study and the obstacles and changes to continue the project after the first twenty-four years. We also expose the Seven Countries Study, designed and managed by Ancel Keys, as the first study performed with centralized methodology in various countries, and the studies in various European countries: Whitehall, Manresa, Paris, British Regional, Northwick Park, Caerphilly, Speedwell and PROCAM. We analyse the role of the longitudinal studies in the methodology of later studies: sons and daughters of the Framingham participants, longitudinal studies based on questionnaires, studies of the other risk factors, prevalence of risk factors in retrospective studies, trials of primary prevention (MRFIT, WHO European Collaborative Trial and Gotenburg Study) and the participation of the trained teams in the MONICA Project. We present the issues still under debate in connection with the methodology and results of the longitudinal studies: problems in the periodic examination of the participants in the epidemiologic studies, changes in definition of the new cases of acute cardiovascular events, use and selection of risk functions based on coronary charts to calculate the individual risk and cardiovascular risk factors as yet unknown.

Keywords