EDITORIAL

An intriguing low prevalence of atrial fibrillation in Spain

Una interesante baja prevalencia de fibrilación auricular en España

Atrial fibrillation (AF) is a common disease of the heart in the general population characterized by an irregular and generally fast rhythm of the heart leading to an increased morbidity and mortality, impaired quality of life, and a high financial burden for the society. Therefore, reliable prevalence figures are needed for clinicians and policy makers. However, prevalence is not easy to measure due to a series of characteristics of the disease that complicate this process. First, many sufferers from this condition have minimal or no symptoms. And if they have symptoms, they often do not seek medical advice at an early stage of AF. Second, AF is often paroxysmal and may remain undetected with a screening ECG. Robust prevalence figures are available for the United States1 and Western Europe2.

The authors of the DARIOS Study in this journal investigated the prevalence and risk factors of AF in 17,291 participants of the general population. They argue that reliable population-based prevalence figures for Spain are scarce or not available. They found in a combination of 6 population-based studies from different regions of Spain a remarkably low prevalence. The prevalence in those aged 60–75 was 2.3% and 6.3% in persons older than 75 years of age. For comparison, these figures were ~3.7% and ~12.4% respectively in the Rotterdam Study. Also in Germany in a population of 8.3 million patients, although in a claim based dataset, a higher prevalence was measured.3 How can this low AF rate in Spain be explained?

It has been found in former investigations4 that a low prevalence of AF can be found in a population with a low prevalence of the classical cardiovascular risk factors. However, in the DARIOS Study population this was not the case. Over 30% of the population had hypertension, 37% had hypercholesterolemia, and only 26% had a BMI < 25 kg/m². With these findings the low prevalence of AF in this study cannot be explained. A remarkably low prevalence of ischemic heart disease, however, was also found in this study (2.8%). Ischemic heart disease is a strong risk factor for AF and this might explain a low prevalence of AF in this study. The French Paradox at the time has been defined by the presence of low coronary heart disease death rates despite the high intake of cholesterol and saturated fat.5 Later it was found that a high prevalence of total cholesterol, blood pressure, smoking and obesity in the Spanish province Girona went together with a low incidence of cardiovascular heart disease and that this could be considered as an extension of the formerly defined French Paradox.6 One conclusion of the underlying paper could be that the resulting low prevalence of CHD in Southern Europe caused the low prevalence of atrial fibrillation. Another explanation could be that the same, unknown, protective mechanisms that cause a low prevalence of CHD in the presence of high prevalence of cardiovascular risk factors, also protect against the incidence of atrial fibrillation.

However, we also have to consider a more simple explanation. In general, it can be argued that screening of a general population on atrial fibrillation should depend on 3 methods of case collection and ascertainment. Not only screening of the whole population with an ECG is required, but also the information for all participants from all possible clinicians who in general are involved in the treatment of patients with AF and, finally, hospital discharge diagnoses are needed. These three methods were not all followed in these 6 studies. Cases were selected by ECG only and therefore the figures almost certainly reflect the prevalence of chronic AF. In 2013 the results of the Spanish OFRECE Study were presented.7 Case-finding in the study was done by a combination of ECG screening and clinical information. Probably that study included also paroxysmal AF cases. The prevalence figures presented in the OFRECE study were higher than the prevalence reported by the DARIOS investigators and very comparable to the results found in Northern Europe.7 An interesting finding in the OFRECE study was also a low (but slightly higher than in the DARIOS Study) prevalence of ischemic heart disease of almost 5%.

Thus, to conclude, the low AF prevalence in the DARIOS study is probably caused by an incomplete case-finding.
The low prevalence of ischemic heart disease found in this study is very interesting but at this moment it remains unresolved whether the French or Mediterranean paradox has consequences for the prevalence of AF in Spain.

References


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