Prevalence of Metabolic Syndrome in Extremadura, Spain

To the Editor,

We read with interest the article by León et al\textsuperscript{1} who studied a sample of workers aged 25 to 64 years recruited during their routine medical check-up exams undertaken by the prevention services of FREMAP during 2003 and estimated an overall prevalence of the metabolic syndrome (MS) of 13.4\%, higher in men (15.9\%) than in women (5.2\%). What really caught our attention, though, was that the greatest prevalence of MS in the various autonomous regions in Spain corresponds to men in Extremadura: 22.15\% (95\% confidence interval [CI], 21.7\%-22.5\%), whilst the prevalence in women is also the highest in Spain: 9.1\% (95\% CI, 8.1\%-10.2\%).

This high prevalence of MS in Extremadura, by far the highest in Spain, is surprising. As the authors point out, the prevalence not only of MS, but also of other cardiovascular risk factors, like hypertension, diabetes and obesity, and even ischemic heart disease, is greater in regions of southern Spain,\textsuperscript{1} including Extremadura. Our group (GERIVA: Grupo de Estudio del Riesgo Vascular de Extremadura [Group for the Study of Vascular Risk in Extremadura]) recently published a study analyzing the prevalence of MS according to various different criteria in the province of Caceres (also in the region of Extremadura). The study involved the general population over the age of 24 years, and was based on a population sample of 1314 subjects (55.4\% women), with a mean age of 52.8 (18) years.\textsuperscript{2} The prevalence of MS according to the ATP-III (2001) criteria,\textsuperscript{3} which we understand to be those used for the diagnosis of MS by León et al, was 18.6\% (95\% CI, 16.5-20.8), and was similar in men (18.3\%; 95\% CI, 15.2-21.4) and women (19\%; 95\% CI, 16.2-21.8). This prevalence is similar or just slightly higher than that of other similar studies carried out in Spain and with which we compared our findings.\textsuperscript{2} Thus, a prevalence, especially in men, of 22.15\% would seem high, both in absolute terms and in comparison with the prevalence seen in the other autonomous regions.
of Spain, particularly when these authors only include a population up to the age of 64 years, and it is well known, as our study clearly shows, that the prevalence of MS is much higher with effect from this age.

Also surprising were the great differences found in the study by León et al between sexes. The study by our group found no differences between men (18.3%) and women (19%), a finding that was also seen in most of the recent reports referred to in our article. This difference may be due to the large variation in the sample between the numbers of men and women in the study by León et al.

Finally, another recently published study carried out in the province of Badajoz (again in Extremadura) among persons who attended their primary health care center reported a prevalence similar to that of León et al (23.8%). However, this very high prevalence was explained by the fact that the study was not done in the general population but rather in an elder population, as is that of persons attending their health center.

In view of these points, we believe that the prevalence in Extremadura of MS, and probably of other cardiovascular risk factors, may be slightly above the national mean, but not so much as suggested by León et al.

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Response

To the Editor,

The high prevalence of the metabolic syndrome found in this study in men from Extremadura is not surprising if we bear in mind, as already mentioned, the agreement with other studies on cardiovascular risk factors, mainly obesity and diabetes mellitus, in different geographical areas of Spain. In addition, the methods used in our study were correct and rigorous, and the prevalence was standardized for age and sex.

The comparison of prevalence figures of cardiovascular risk factors in different studies is very complex and the methodological base is sometimes weak. The lack of a homogenous system, both in the protocol used to obtain the data and in their later treatment, is a generalized problem that makes comparison much more difficult, which is reflected in the difficulty involved in producing valid and general conclusions. It is for this reason that the methods of the various studies should be carefully reviewed before actually comparing the results.

As we stated in the section on limitations, we were unable to control certain factors that may have influenced the later results, such as the socioeconomic level of the workers or the type of activity they carried out, though we know that the mutual insurance company deals with workers employed in different activities. In spite of the fact that the study involved a large sample (600 workers), they are not necessarily representative of the general population of Extremadura.

About 90% of the sample in our study came from the province of Badajoz, in Extremadura. In the study mentioned by the authors of the letter, undertaken with a sample of patients in the same province, the authors found a very similar prevalence to that of our study. Accounting for the high prevalence solely by the inclusion of persons older than 65 years of age and the sample type is questionable, given that 80% of that sample were younger than 65 years of age.

The low prevalence of the metabolic syndrome in female workers, in all the autonomous regions studied and in all the age ranges, as compared with the figures published for the general female population in Spain, is almost certainly the result of differences in the socioeconomic profile.

What is obvious, though, is the presence of large differences in the prevalence of the metabolic syndrome depending on the geographical area studied, as occurs with mortality from ischemic heart disease. Further research using methodologically rigorous studies is required to attempt to explain this difference if we wish to increase our understanding
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of cardiovascular prevention, more so if we aim to establish effective measures adapted to the situation in each region.

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Brugada Syndrome

To the Editor,

We read with great interest the excellent review by Benito et al1 in the Revista. Not only did the authors explain the basic concepts of the syndrome, they also pointed the way to future directions concerning its diagnosis, prognosis and treatment. Given the importance of this review, we feel it is relevant to point out an aspect that appears in the final figure (Figure 12) which gives rise to certain doubts. In the asymptomatic patient with a drug-inducible type I electrocardiographic pattern the authors point out that electrophysiologic study is a class IIa indication, based on the second consensus document on Brugada syndrome published by Antzelevitch et al2 in 2005. However, in the document in question it figures as a class IIb indication, which in this case also means a class IIb indication for the implantation of a cardioverter defibrillator. We believe it necessary to clarify whether this was simply a mistake or, on the other hand and given that some authors consider it indicated as a prognostic tool,3 the authors have purposely modified the figure in the consensus document.

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Response

To the Editor,

We read with interest the comments of Barriales-Villa et al about our article on Brugada syndrome published in the November 2009 issue of the Revista.1 As already mentioned in the review article, the value of electrophysiologic study (EPS) in the risk stratification of patients with Brugada syndrome has been and still remains a debated subject. Whereas some Brugada series establish that EPS is a useful tool for the prediction of major events (sudden death or ventricular fibrillation), particularly in asymptomatic patients,2 other series have failed to confirm these results.3 Thus, the current indication for EPS in the asymptomatic patient is considered as possibly beneficial until the results of larger population-based series become available. In our review article, we used as a reference the recommendations proposed by the II Consensus Conference on Brugada syndrome, published in 2005,4 according to which the indication for EPS in asymptomatic patients with spontaneous type I electrocardiogram (ECG) is class IIa and in asymptomatic patients with non-spontaneous type I ECG is class IIb. In the figure published in our article, however, both indications were shown as IIa due to an errata that was not present in the original version of the article. Thus, we thank Barriales-Villa et al for their comment, which has enabled us to clarify the information we wished to transmit and which will, therefore, result in the readers receiving the suitable message concerning the indications for EPS in patients with Brugada syndrome.

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