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## Ischemic Heart Disease in Women. Data From BARIHD Study

### *Cardiopatía isquémica en la mujer. Datos del estudio CIBAR*

**To the Editor,**

The relationship between ischemic heart disease and sex is evidenced by continuing differences between men and women in treatment and secondary prevention strategies and their outcomes. Nevertheless, progress has been made over the last decade.[1–3] The aim of our study was to characterize differences by sex in the clinical features, diagnosis, treatment, and prognosis of an initial cohort of 1108 patients with chronic ischemic heart disease drawn from primary care (PC) practice, and with a minimum of 1 year of evolution after the first episode. Patients were from the CIBAR (Barbanza Ischemic Heart Disease) study, a prospective, multicenter, cohort study launched in 2007 in which, over a one month period,

**Table 1**
Clinical Features, Risk Factors, Comorbidities, Diagnostic Tests, and Patient Treatment in the CIBAR Study. Distribution by Sex

| | Total | Men | Women | *P* |
|---|---|---|---|---|
| Patients | 1108 (100) | 798 (72) | 310 (28) | |
| Age, years | 69.2 ± 11.1 | 71.1 ± 9.8 | 68.5 ± 11.5 | <.001 |
| Stable angina | 258 (23.3) | 166 (20.9) | 92 (29.3) | .003 |
| Unstable angina | 243 (21.9) | 156 (19.6) | 87 (27.7) | .004 |
| Acute myocardial infarct | 607 (54.8) | 472 (59.4) | 135 (43) | <.001 |
| High blood pressure | 726 (65.5) | 478 (60.2) | 248 (79.4) | <.001 |
| Dyslipidemia | 779 (70.3) | 542 (67.9) | 237 (76.5) | .009 |
| Diabetes | 318 (28.7) | 212 (26.6) | 106 (34.2) | .015 |
| Current smoker | 110 (9.9) | 100 (12.5) | 10 (3.2) | <.001 |
| Obesity[a] | 436 (39.4) | 289 (36.2) | 147 (47.4) | .001 |
| Central obesity[b] | 604 (54.5) | 367 (46) | 237 (76.5) | <.001 |
| Metabolic syndrome[c] | 490 (44.2) | 309 (38.7) | 181 (58.4) | <.001 |
| Previous heart failure | 120 (10.8) | 81 (10.2) | 39 (12.6) | .238 |
| Atrial fibrillation | 159 (14.4) | 105 (13.2) | 54 (17.4) | .071 |
| Ictus | 97 (8.8) | 66 (8.3) | 31 (10) | .407 |
| Peripheral vascular disease | 153 (13.8) | 122 (15.3) | 31 (10) | .025 |
| Valve disease | 175 (15.8) | 108 (13.5) | 67 (21.6) | .001 |
| Echocardiogram | 854 (77.1) | 622 (77.9) | 232 (74.8) | .266 |
| Ergometry | 617 (55.7) | 453 (57.1) | 160 (51.3) | .077 |
| Coronary catheterization | 827 (74.6) | 628 (78.7) | 199 (64.2) | <.001 |
| Multivessel lesion | 405 (49) | 324 (51.6) | 81 (40.3) | <.001 |
| Coronary angioplasty | 439 (39.6) | 347 (43.5) | 92 (29.7) | <.001 |
| Coronary artery bypass surgery | 195 (17.6) | 161 (20.3) | 34 (10.8) | <.001 |
| Antiplatelet treatment | 914 (82.5) | 668 (83.7) | 246 (79.4) | .094 |
| Anticoagulants | 184 (16.6) | 127 (15.9) | 57 (18.4) | .324 |
| Nitrates | 571 (51.5) | 397 (49.7) | 174 (56.1) | .061 |
| Beta blockers | 665 (60) | 487 (61) | 178 (57.4) | .275 |
| ACE inhibitors and/or ARBs | 674 (60.8) | 466 (58.4) | 208 (67.1) | .009 |
| Calcium channel blockers | 422 (38.1) | 288 (36.1) | 134 (43.2) | .033 |
| Diuretics | 367 (33.1) | 237 (29.7) | 130 (41.9) | <.001 |
| Statins | 967 (87.3) | 695 (87.1) | 272 (87.7) | .841 |
| Physical exercise[d] | 850 (76.7) | 630 (79.3) | 230 (70.1) | .001 |

ARB, angiotensin II receptor blockers; ACE, angiotensin-converting-enzyme.
Data are n (%) or mean ± standard deviation.
[a] Body mass index>30.
[b] Abdominal perimeter≥102 cm in men, ≥88 cm in women.
[c] Based on ATP-III 2001.
[d] Defined as any aerobic exercise lasting over 20 min, at least 3 times a week.

**Table 2**
Mortality and Hospital Admissions During Follow-up of Patients in the CIBAR Study. Distribution by Sex

| | Total | Men | Women | *P* |
|---|---|---|---|---|
| Patients | 1095 (100) | 787 (71.9) | 308 (28.1) | |
| Total mortality | 78 (7.1) | 53 (6.7) | 25 (8.1) | .434 |
| Cardiovascular mortality | 44 (4) | 28 (3.6) | 16 (5.2) | .232 |
| Non-cardiovascular mortality | 34 (3.1) | 25 (3.2) | 9 (2.9) | .949 |
| Total admissions | 358 (32.7) | 261 (33.2) | 97 (31.5) | .617 |
| Cardiovascular admissions | 191 (17.4) | 143 (18.2) | 48 (15.6) | .331 |
| Death and/or admission | 372 (34) | 269 (34.2) | 103 (33.4) | .832 |
| Cardiovascular death and/or cardiovascular admission | 207 (18.9) | 152 (19.3) | 55 (17.9) | .607 |

Data are number of cases (%). Mean follow up, 800±114.2 days.

69 PC physicians enrolled patients over 18 years with a previous diagnosis of ischemic heart disease and evolution of at least one year according to the hospital discharge report. All patients provided signed informed consent to participate. All baseline data were obtained at the initial PC visit. The influence of diabetes in these patients has already been published.[4] A later publication, after a mean follow-up of over 2 years and with only 13 patients lost to follow-up (1.2%), provided additional prognostic information on the cohort.[5] Data from the same cohort was used for the present analysis.

Table 1 describes the clinical features, risk factors, comorbidities, diagnostic tests, and treatment of patients included at baseline by sex. Table 2 shows hospital admissions and mortality during follow-up, again by sex. The most relevant results of this analysis were the differences in risk factor distribution, with higher rates of obesity, diabetes, hypertension, and dyslipidemia, and lower rates of smoking in women, and the fact that women in the cohort were younger than men, an unusual finding when compared to other series. We also observed a less aggressive approach to diagnosis in women, and noted that their ischemic heart disease less frequently manifested as myocardial infarction. Disease management tended to be less invasive in women. With regards to treatment, no differences were found by sex in terms of the degree to which treatments recommended in clinical practice guidelines for these patients (antiplatelet agents, statins or beta blockers) were indicated, although adherence to treatment was not systematically assessed. Women did less exercise than men. Regarding prognosis, mortality was low in these patients overall, a finding which may be partly explained by the fact that at least one year had passed since the first episode; it is in that one year period immediately after the episode when mortality rates are highest. After 2 years of follow up, we observed no statistically significant differences by sex in mortality or hospitalization, although the sample was not large enough (due to the small number of women) for the data to be considered definitive.

CIBAR is one of the few studies on ischemic heart disease in Spain to be carried out in a PC setting and provides information on how the contemporary management of these patients and their prognosis matches current clinical practice guidelines.

Our study results also reflect observations made in previous reviews about ischemic heart disease in women,[2] with invasive studies and interventional treatment continuing to be less frequent in women. Nevertheless, when compared with the results of the ESPERANZA study from Conthe et al. from almost 10 years ago,[6] there have been improvements in the use of pharmacological treatments, to the point where there are now no differences by sex on this parameter. Despite improvements in the last decade,[1,3] the increase in obesity and diabetes in Spain, risk factors which are also prevalent in women in the CIBAR study, is a cause for considerable concern. The lower levels of physical activity among women in the CIBAR study likely contribute to this increased prevalence.

The information obtained in this study provides a useful insight into the presentation and management of chronic ischemic heart disease in PC and serves as a warning to ensure that women are managed more in accordance with current clinical practice guidelines. In the CIBAR study, no differences were found by sex regarding prognosis, but differences were observed in the distribution of risk factors, in the use of diagnostic coronary angiography, and in revascularization strategies. In light of current clinical practice recommendations, all of these require improvement.

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## Flecainide, a Therapeutic Option in a Patient With Long QT Syndrome Type 3 Caused by the Heterozygous V411 M Mutation in the *SCN5A* Gene

## *Flecainida, una opción terapéutica en una paciente con síndrome de QT largo tipo 3 por la mutación V411 M en heterocigosis en el gen* SCN5A

### To the Editor,

Long QT Syndrome Type 3 (LQT3) is caused by mutations in the *SCN5A* gene which result in a hyperactive sodium channel. Although beta -blockers are the only therapeutic option outlined in clinical guidelines,[1] the addition of a sodium channel blocker drug (such as mexiletine, lidocaine, flecainide, and ranolazine) can also be useful.[2–4] However, not all sodium blockers have the same effect in the channel. Some preferably bind to activated open channels (such as flecainide), while others do so to inactivated channels (such as mexiletine and lidocaine). There are very few studies published regarding the effect of these drugs in patients with LQT3 and their effectiveness has not been compared in any regulated manner.

A 2-year-old girl was diagnosed with possible LQT following the chance discovery of a QTc interval of 485 ms (Fig. 1A) and up to 530 ms during periods of intermittent 2:1 atrioventricular block (AVB) (Fig. 1B), asymptomatic at all times. There was no family history of this condition and the girl's parents were also asymptomatic, with normal electrocardiogram results. After obtaining the relevant informed consent to proceed, bidirectional direct sequencing was performed on the exons and introns adjacent to the *KCNQ1*, *KCNH2*, and *SCN5A* genes in DNA taken from the child's peripheral blood.

A *SCN5A* V411 M mutation was detected in heterozygosis which was not present in either parent. Recently, Horne et al. studied the functional behavior of said mutation (*SCN5A* V411 M) with different sodium channel blockers. They did not find any relevant

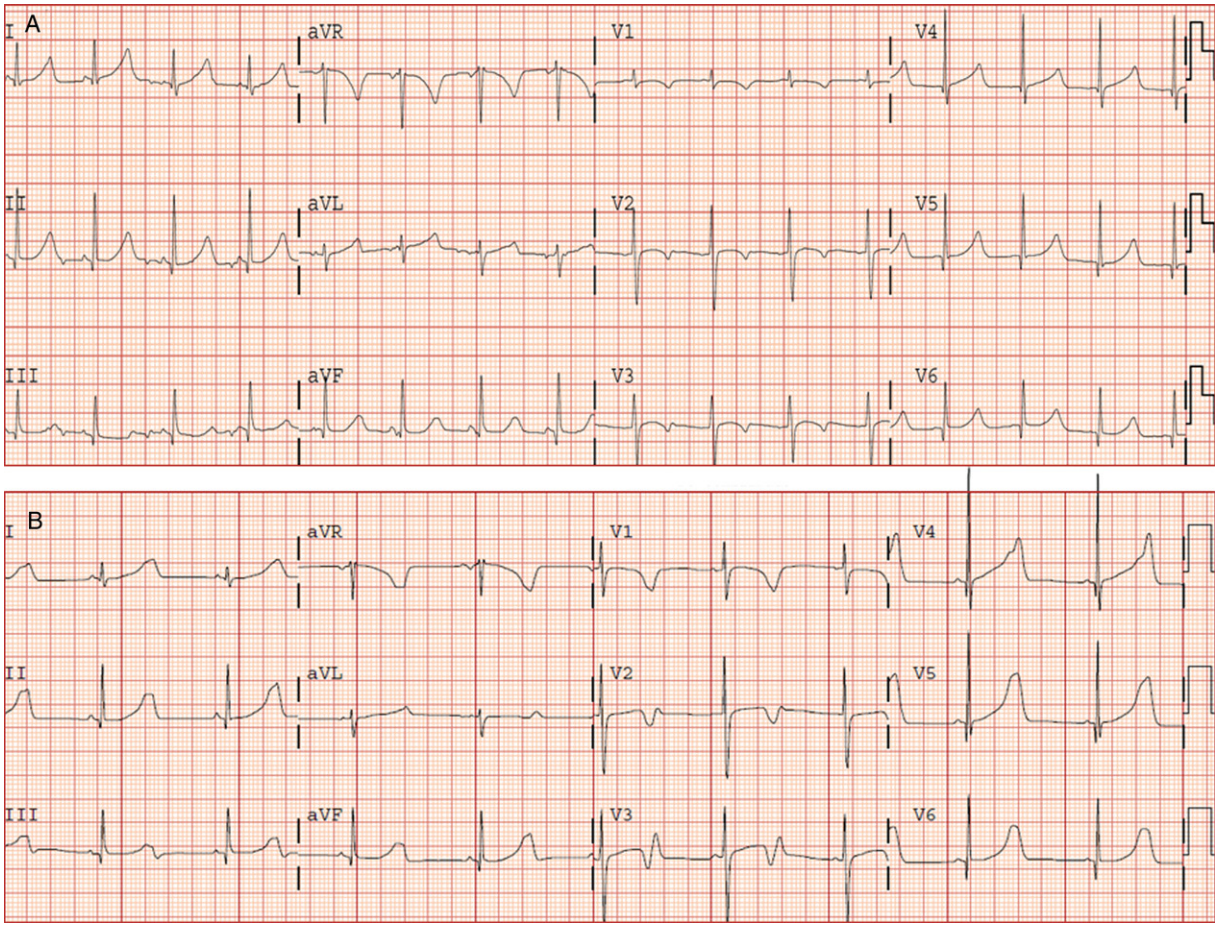


**Figure 1.** Electrocardiogram without medication. A: sinus rhythm, normal atrioventricular conduction, and QTc 485 ms. B: sinus rhythm, 2:1 second degree atrioventricular block and QTc 530 ms.