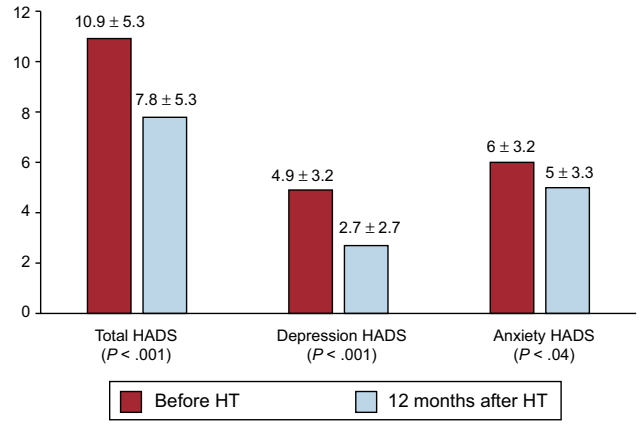

Figure. HADS scores during the waiting-list period and at 12-months' follow-up after the transplantation. HT, heart transplantation; HADS, Hospital Anxiety and Depression Scale; heart transplantation. Values are expressed as mean ± standard deviation.

an improvement in psychological parameters at 12-months' follow-up.

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REFERENCES

1. Coglianese EE, Samsi M, Liebo MJ, Heroux AL. The value of psychosocial factors in patient selection and outcomes after heart transplantation. Curr Heart Fail Rep. 2015;12:42–7.
2. González-Vílchez F, Gómez-Bueno M, Almenar L, Crespo-Leiro MG, Arizón JM, Palomo J, et al. en representación de los Equipos Españoles de Trasplante Cardiaco. Registro Español de Trasplante Cardiaco. XXV Informe Oficial de la Sección de Insuficiencia Cardiaca y Trasplante Cardiaco de la Sociedad Española de Cardiología (1984-2013). Rev Esp Cardiol. 2014;67:1039–51.
3. American Psychiatric Association. Manual diagnóstico y estadístico de los trastornos mentales (DSM-IV-TR). Barcelona: Masson; 2002.
4. Herrero MJ, Blanch J, Peri JM, de Pablo J, Pintor L, Bulbena A. A validation study of the hospital anxiety and depression scale (HADS) in a Spanish population. Gen Hosp Psychiatry. 2003;25:277–83.
5. Triffaux JM, Wauthy J, Bertrand J, Limet R, Albert A, Ansseau M. Psychological evolution and assessment in patients undergoing orthotopic heart transplantation. Eur Psychiatry. 2001;16:180–5.
6. Zipfel S, Schneider A, Jünger J, Herzog W. Anxiety, depressive symptoms and heart transplantation. In: Molinari E, Compare A, Parati G, editors. Clinical psychology and heart disease. Milano: Springer; 2010. p. 149–63.

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Influence of Gender and Cardiovascular Risk on the Control of Low-density Lipoprotein in a Population From Extremadura

Control de lipoproteínas de baja densidad en población extremeña en función del sexo y del riesgo cardiovascular

To the Editor,

The latest European Society of Cardiology and European Atherosclerosis Society guidelines for the management of dyslipidemias propose the definition of 4 levels of cardiovascular risk (very high, high, moderate, and low) to facilitate decision making and selection of the best therapeutic strategy.[1]

However, several studies indicate that different diagnostic and therapeutic approaches to cardiovascular risk (CVR) are used for women and men, both in primary and in secondary prevention; pharmacological undertreatment is common among women in secondary prevention or at high CVR, whereas there is a tendency to overtreat women at low CVR.[2–4]

The goal of this study was to evaluate the control of lipoprotein concentrations and the prescription of lipid-lowering drugs in the different stratification categories for CVR[1]; CVR was estimated using the calibrated Framingham function from the REGICOR study[5] in participants aged ≥ 35 years (1170 women and 1042 men) in the HERMEX study, based in Extremadura, Spain.[6] Participant parameters included history of risk factors and cardiovascular diseases, anthropometric measures, blood pressure, ankle brachial pressure index, medication with lipid-lowering drugs, and blood analyses. Data were analyzed with SPSS 22.0 for Windows. Significance of differences between mean values was calculated by Students' *t* test, and between median values by the Mann–Whitney *U* test; significance of differences between proportions was calculated with the chi-square test or Fisher's exact test. Multivariable analysis was conducted by logistic regression, using the "Enter" method, with the dependent variable defined as achievement or nonachievement of the target values for low-density lipoprotein cholesterol (LDL-C) in the very high or high CVR categories. Independent variables included all those showing an association at $P < .10$ in the bivariable analysis and others associated in the literature with the use of lipid-lowering drugs, such as age, a history of smoking, obesity, diabetes mellitus, hypertension, peripheral artery disease, or chronic kidney disease.

The mean age of the study population was 53.3 years. Of the participants, 31.2% were smokers and 35.4% fulfilled the criteria for hypercholesterolemia; 48.5% of participants considered to be hypercholesterolemic were receiving treatment with lipid-lowering drugs (46.9% of men compared with 50.0% of women; $P < .05$) (Table 1).

Analysis of CVR distribution showed that 27.1% of men were in the very high or high risk categories compared with 20.8% of women ($P < .05$). In contrast, 75.6% of women were at low CVR compared with 56.8% of men ($P < .001$). Of participants at very high or high CVR, 51.9% of men were taking lipid-lowering drugs vs 33.7% of women ($P < .05$); in the low CVR category, 8.8% of men were taking lipid-lowering drugs vs 12.7% of women ($P < .05$). Our study did not investigate the dose or type of drug prescribed, but given the prescription pattern of lipid-lowering drugs in the health system, it can be assumed that most were statins.

Table 1
Principal Biological Parameters and Prevalence of Clinical Conditions

	Total (n = 2212)	Men (n = 1042)	Women (n = 1170)	*P*
Age, y	53.3 ± 18.8	53.3 ± 12.3	53.3 ± 12.3	.993
Total cholesterol, mg/dL	211.1 ± 37.5	211.6 ± 39.4	210.6 ± 35.8	.513
LDL-C, mg/dL	123.6 ± 31.1	126.3 ± 31.9	121.2 ± 30.5	< .001
LDL-C 130-159, mg/dL	646 (29.2)	339 (32.5)	307 (26.2)	< .05
LDL-C ≥ 160 mg/dL	259 (11.7)	138 (13.2)	121 (10.3)	< .05
HDL-C, mg/dL	56.4 ± 14.4	52.0 ± 13.4	60.4 ± 14.1	< .001
Triglycerides, mg/dL	95.0 [69.0-135.0]	106.0 [77.0-152.0]	88.0 [63.0-119.0]	< .001
ApoB, mg/dL	101.6 ± 23.5	105.4 ± 23.4	98.2 ± 23.0	< .001
ApoB 100-119, mg/dL	709 (32.1)	363 (34.8)	346 (29.6)	< .01
ApoB ≥ 120, mg/dL	471 (21.3)	265 (25.4)	206 (17.6)	< .05
ApoA-1, mg/dL	158.5 ± 33.3	152.8 ± 30.8	163.7 ± 34.6	< .001
Glycemia, mg/dL	99.0 [92.0-110.0]	103.0 [96.0-114.0]	96.0 [89.0-106.0]	< .001
Glycated hemoglobin, %	5.2 ± 0.9	5.3 ± 0.9	5.2 ± 0.9	< .05
SBP, mmHg	128.3 ± 21.6	134.0 ± 19.1	123.3 ± 22.5	< .001
DBP, mmHg	77.4 ± 10.9	79.7 ± 10.0	75.3 ± 11.2	< .001
BMI	28.8 ± 5.1	29.2 ± 4.4	28.5 ± 5.7	< .01
Waist circumference, cm	98.3 ± 13.0	100.6 ± 11.1	96.2 ± 14.1	< .001
Smokers	690 (31.2)	397 (38.1)	293 (25.0)	< .001
Obesity	806 (36.4)	394 (37.8)	412 (35.2)	.205
Abdominal obesity	1252 (56.6)	437 (41.9)	815 (69.7)	< .001
Hypercholesterolemia	783 (35.4)	377 (36.2)	406 (34.7)	.468
Drug-treated hypercholesterolemia	380 (48.5)	177 (46.9)	203 (50.0)	< .05
Lipid-lowering drugs	380 (17.2)	177 (17.0)	203 (17.4)	.821
Hypertension	894 (40.4)	465 (44.6)	429 (36.7)	< .001
Diabetes mellitus	305 (13.8)	161 (15.5)	144 (12.3)	< .05
Metabolic syndrome	789 (35.7)	345 (33.1)	444 (37.9)	< .05
CKD	100 (4.5)	33 (3.2)	67 (5.7)	< .01
Peripheral artery disease	119 (5.4)	66 (6.3)	53 (4.5)	.060
Cerebrovascular disease	28 (1.3)	19 (1.8)	9 (0.8)	< .05
Ischemic heart disease	48 (2.2)	28 (2.7)	20 (1.7)	.114
Ischemic heart disease, cerebrovascular disease or revascularization	79 (2.9)	47 (3.8)	32 (2.2)	< .05

ApoA, apolipoprotein A; ApoB, apolipoprotein B; BMI, body mass index; CKD, chronic kidney disease; DBP, dystolic blood pressure; HDL-C, high-density lipoprotein cholesterol; LDL-C low-density lipoprotein cholesterol; SBP, systolic blood pressure.
Data are expressed as mean ± standard deviation, No. (%), or median [interquartile range].

The degree of attainment of target LDL-C levels in each CVR category is shown in Table 2. The data reveal that only 6.5% of the population at very high or high risk achieved target LDL-C levels, most of them men (8.9% vs 3.7%; $P < .01$). However, in the low and moderate CVR categories, a higher percentage of women achieved target LDL-C levels (Table 2). In the multivariable analysis, only female sex was associated with worse lipid control in the very high and high risk groups (odds ratio [OR] = 2.25; 95% confidence interval [95%CI], 1.01-5.00; $P < .05$), whereas a history of cardiovascular disease was associated with better lipid control (OR = 0.23; 95%CI, 0.11-0.52; $P < .001$).

Finally, for patients with diseases requiring secondary prevention goals, the highest percentage of target LDL-C was achieved among those with cardiovascular disease (ischemic heart disease and stroke; 17.7% of patients had LDL-C < 70 mg/dL; 23.4% of men vs 9.4% of women; $P = .140$). The second highest percentage was achieved among those with peripheral artery disease (LDL-C < 70 mg/dL, 9.2%; 15.2% in men, 1.9% in women; $P < .05$).

In summary, our study reveals that 48.9% of patients with very high or high CVR are prescribed lipid-lowering drugs, but that the prescription rate among women in these risk categories is lower than for men (33.7% vs 51.9%; $P < .05$); moreover, among patients in these risk categories, a lower proportion of women than men achieve target LDL-C levels (3.7% vs 8.9%; $P < .05$). In contrast, a higher proportion of women than men at moderate or low CVR take lipid-lowering drugs (34.7% vs 22.4%; $P < .05$) and a higher proportion of them have target LDL-C levels (79.4% vs 54.5%; $P < .05$) (Table 2).

These results are consistent with those of other studies indicating that different therapeutic approaches to CVR are used for women and men: there is a tendency to undertreat women in secondary prevention and those at very high or high CVR, and a

Table 2
Population Achieving Target Levels of Low-density Lipoprotein Cholesterol Stratified According to Cardiovascular Risk Category

	Total	Men	Women	*P*
Very high or high CVR	34 (6.5)	25 (8.9)	9 (3.7)	< .01
Moderate CVR	43 (20.6)	29 (17.3)	14 (34.1)	< .05
Low CVR	621 (42.0)	220 (37.2)	401 (45.3)	< .01

CVR, cardiovascular risk.
Target levels of low-density lipoprotein cholesterol: < 70 mg/dL for patients at very high CVR, < 100 mg/dL for patients at high CVR, and < 115 mg/dL for patients at moderate or low CVR. Data are No. (%).

tendency to overtreat women at moderate of low CVR. The evidence thus indicates that women at very high or high CVR receive less effective treatment than men in the same risk categories.

Our study highlights the value of research into strategies aimed at increasing health care professionals' awareness of the need for gender equality in the approach to CVR, especially in relation to women in secondary prevention or at very high or high risk. This would also result in a more efficient use of lipid-lowering drugs.

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REFERENCES

1. Reiner Ž, Catapano AL, de Backer G, Graham I, Taskinen MR, Wiklund O, et al. Guía de la ESC/EAS sobre el manejo de las dislipemias. Rev Esp Cardiol. 2011;64. 1168.e1-e60.
2. Tabenkin H, Eaton CB, Roberts MB, Parker DR, McMurray JH, Borkan J. Differences in cardiovascular risk factor management in primary care by sex of physician and patient. Ann Fam Med. 2010;8:25–32.
3. Baena-Díez JM, Félix FJ, Grau M, Cabrera de León A, Sanz H, Leal M, et al. Tratamiento y control de los factores de riesgo según el riesgo de cardiopatía en la población española del estudio DARIOS. Rev Esp Cardiol. 2011;64:766–73.
4. Guallar-Castillón P, Gil-Montero M, León-Muñoz LM, Graciani A, Bayán-Bravo A, Taboada JM, et al. Magnitud y manejo de la hipercolesterolemia en la población adulta de España, 2008-2010, el estudio ENRICA. Rev Esp Cardiol. 2012;65:551–8.
5. Marrugat J, Solanas P, D'Agostino R, Sullivan L, Ordovas J, Cordón F, et al. Estimación del riesgo coronario en España mediante la ecuación de Framingham calibrada. Rev Esp Cardiol. 2003;56:253–61.
6. Estudio de la prevalencia de los factores de riesgo cardiovascular en un Área Sanitaria de Badajoz. Estudio HERMEX. Metodología, resultados y conclusiones del Estudio Piloto [accessed August 4, 2015]. Available at: http://www.grimex.org/prevencion-primaria-hermex/

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Combined Percutaneous Mitral Valve Implantation and Paravalvular Leak Closure in a High-risk Patient With Severe Mitral Regurgitation

Reparación percutánea combinada de válvula mitral: cierre de fuga paravalvular e implante de prótesis transcatéter en paciente de alto riesgo con insuficiencia mitral grave

To the Editor,

The advantages of surgical mitral valve (MV) repair vs MV replacement have been extensively documented and it has become the preferred treatment option for patients with mitral regurgitation. However, recent studies have called into question the durability of MV repair, with a reoperation rate of up to 10% to 15% at 10 years of follow-up.[1] In cases of mitral regurgitation recurrence, reoperation often carries a high risk and a significant number of patients do not undergo surgery for this reason.

Isolated case reports have suggested the feasibility of transcatheter MV implantation in the presence of a ring annuloplasty.[2] In most of these cases, the transapical approach was used and a Melody® or Edwards SAPIEN percutaneous valve was implanted into the mitral ring.[3–6]

We report the case of a young man with MV repair failure, in which a percutaneous complete repair of the failed surgery was performed, with transfemoral closure of mitral paravalvular leak and implantation of an Edwards SAPIEN XT valve in the mitral ring in the same procedure.

A 62-year-old man was admitted due to congestive heart failure. Ten years before, the patient underwent coronary artery bypass (left internal mammary to left anterior descending artery and saphenous vein graft to circumflex) with MV repair and implantation of a 30-mm CE Physio semirigid ring (Edwards Lifesciences Inc; Irvine, California, United States). On admission, a transesophageal echocardiogram showed severe mitral regurgitation due to an anteroseptal para-ring leak, with a central intravalvular jet related to leaflet degeneration and moderate left ventricular dysfunction (ejection fraction 40%) with severe pulmonary hypertension. A coronary angiogram was performed ruling out significant coronary disease, with patent coronary grafts. The patient was rejected for a new surgical intervention (logistic EuroSCORE 21.49%, Society of Thoracic Surgeons score 10.23%) and transfemoral valve-in-ring implantation with para-ring leak closure was planned.

After transeptal puncture, an arteriovenous loop was established with a hydrophilic straight tip wire that had crossed the leak retrograde from the left ventricle, snared in the left atrium and exteriorized through the femoral vein. Subsequently, a left Amplatz catheter was advanced from the venous size into the left atrium, crossing the MV anterograde with a hydrophilic wire, which was captured in the descending aorta and externalized through the femoral artery, creating the second venoarterial loop. After balloon dilation of the septum with a 16-mm balloon, a 29 Edwards SAPIEN XT prosthesis mounted reversely on an 18-F Novaflex delivery catheter (Edwards Lifesciences) was implanted inside the mitral ring under rapid pacing, with slow and controlled balloon inflation (Figure 1). After the valve implant a 7-F sheath was advanced through the first arteriovenous loop and after analysis of the transesophageal echocardiography images, a 14/5 AMPLATZER™ vascular plug III was