myocardial infarction. Indeed, the implementation of reperfusion networks for acute myocardial infarction has help to reduce mortality in Spain.[3]

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Estimated Percentage of Patients With Stable Coronary Heart Disease Candidates for PCSK9 Inhibitors

Estimación del porcentaje de pacientes con enfermedad coronaria estable candidatos a recibir inhibidores de la PCSK9

To the Editor,

We read with great interest the article by Zamora et al.,[1] in which they estimated the number of patients eligible for proprotein convertase subtilisin/kexin type 9 (PCSK9) inhibitors. We thought it particularly interesting that, although they found a relatively low percentage of patients with cardiovascular disease to be eligible for these drugs, this patient group had the highest absolute number of eligible patients. We consider these results to be highly relevant to clinical practice, as they show that 19.8% of patients with cardiovascular disease met the criteria to receive PCSK9 inhibitors based on a low-density-lipoprotein cholesterol (LDL-C) level > 100 mg/dL despite maximal lipid-lowering therapy.

We estimated the percentage of patients that would be eligible for PCSK9 inhibitors based on LDL-C levels > 100 mg/dL despite maximal lipid-lowering therapy in the 1281 patients with cardiovascular disease in the REPAR Study (*Registro Paciente de Alto Rieso Cardiovascular*; in English, the High-Cardiovascular-Risk Patient Registry). This registry previously demonstrated that treatment with high-dose statins was associated with improved LDL-C control,[2] although this was only achieved in less than 40% of patients. In the group of patients with established cardiovascular disease (91% of whom had ischemic heart disease), 33.6% of patients were receiving high-dose statins and 5.4% were receiving high-dose statins plus ezetimibe. As can be seen in Figure 1, the percentage of patients with LDL-C > 100 mg/dL despite taking high-dose statins with or without ezetimibe was 27.3% and 18.8%, respectively; this percentage was 44.8% and 24.6% in patients who were receiving medium-dose statins with or without ezetimibe, respectively.

Dyslipidemia remains one of the most poorly-controlled factors in patients with established cardiovascular disease.[3,4] Treatment with high-dose statins has been demonstrated to be effective in controlling LDL-C and reducing the incidence of cardiovascular complications[5]; combined treatment with ezetimibe also improves LDL-C control and prognosis.[5] However, a large percentage of patients do not meet LDL-C treatment target levels despite maximum-dose treatment.[2–4] Poor control may also be attributed to additional factors such as low treatment adherence, an effect that cannot be excluded in our analysis. PCSK9 inhibitors are a new treatment option that has been demonstrated to be safe

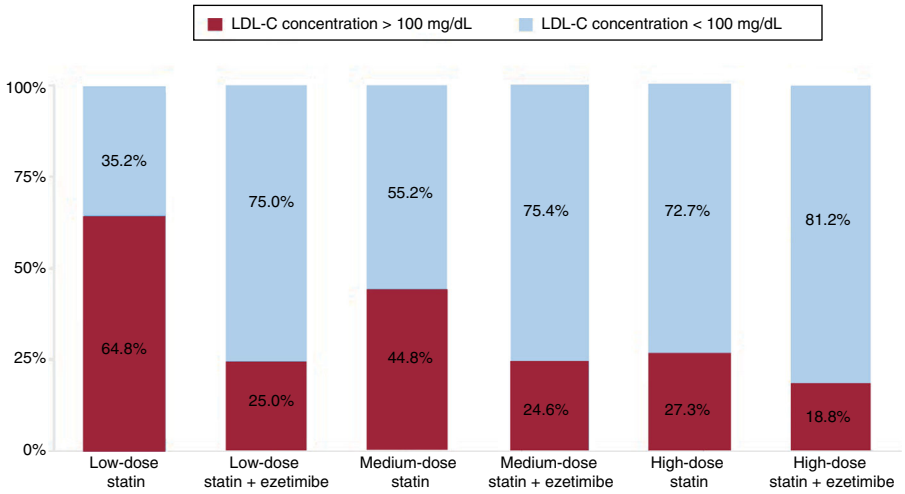

Figure 1. Percentage of patients with LDL-C values greater than or less than 100 mg/dL according to the lipid-lowering therapy received. LDL-C, low-density-lipoprotein cholesterol.

and effective for LDL-C control and that reduces the incidence of cardiovascular complications.[6] The data from both the study by Zamora et al.[1] and the REPAR Study provide evidence that there is a high percentage of patients with established cardiovascular disease who are eligible for PCSK9 inhibitors after optimization of lipid- lowering therapy and lifestyle factors.

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Estimated Percentage of Patients With Stable Coronary Heart Disease Candidates for PCSK9 Inhibitors. Response

Estimación del porcentaje de pacientes con enfermedad coronaria estable candidatos a recibir inhibidores de PCSK9. Respuesta

To the Editor,

?We agree with Cordero et al. that, in absolute numbers, patients with CVD form the largest subgroup eligible for treatment with proprotein convertase subtilisin/kexin type 9 inhibitors (PCSK9i). In our study, 84% of PCSK9i-eligible patients had CVD.[1] Treatment optimization in Spain would likely reduce the number of PCSK9i-eligible patients by roughly 50%. The REPAR study has shown the effectiveness of combination lipid-lowering therapy. Nevertheless, in our study, only between 1.9% and 6.6% of patients with CVD received this therapy.[1]

The studies by Fourier[2] and Odissey[3] demonstrate that the addition of PCSK9i reduces primary or secondary endpoints by 15% to 20% among CVD patients on optimal lipid-lowering therapy. The CVD patient groups that would benefit most from PCSK9i therapy include those with recurrent events (number needed to treat [NNT] = 38), an event in the last 2 years (NNT = 35), multivessel disease (NNT = 29), concomitant peripheral aterial disease (NNT = 29), or recent ischemic heart disease concomitant with low-density lipoprotein cholesterol > 100 mg/dL (NNT = 16).[4] Even in the setting of statin therapy, patients with familial hypercholesterolemia have a 3-fold higher prevalence of CVD than unaffected relatives.[4]

Data from the *Departament de Salut de Catalunya* indicate that 560 patients were treated with PCSK9i from their commercial launch until March 2018. This number corresponds to between 1.05% and 3.4% of eligible patients, indicating that many patients who could benefit from PCSK9i therapy are not receiving it.

It is incumbent upon all stakeholders to work to redefine shared criteria for the indication of PCSK9i therapy.

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CONFLICTS OF INTEREST

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