Our study has certain limitations. This was a retrospective study, with the drawbacks entailed by such a design; however, the percentage of patients excluded in our study for deaths that were not sudden (5.8%) is close to that reported in the prospective study of Morentin et al.[1] (9.4%), and the distribution of causes of death in both studies is very similar. In addition, we do not report clinical information (history of cardiovascular disease and cardiovascular risk factors) or substance abuse. This information would be very relevant in the prevention of the causes. Despite these limitations, the study shows that ischemic heart disease is the main cause of death and therefore prevention of this disease should be a priority, without neglecting other emerging causes such as hereditary arrhythmogenic diseases.[6] In short, the present study corroborates the low incidence of sudden cardiovascular death already reported in other studies in Spain.

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Pseudopheochromocytoma as a Cause of Resistant and Paroxysmal Hypertension Successfully Treated by Percutaneous Renal Denervation

Seudofeocromocitoma como causa de hipertensión arterial refractaria y paroxística tratada con éxito mediante denervación renal percutánea

To the Editor,

Pseudopheochromocytoma is characterized by severe symptomatic paroxysmal hypertension (HT) similar to the clinical picture of pheochromocytoma but with normal catecholamine concentrations and the absence of an adrenal tumor on imaging study. Pseudopheochromocytoma is an infrequent entity of unknown etiology, antihypertensive treatment is generally ineffective, and many patients incur chronic disability. Although the physiopathology of this entity is also unknown, the autonomic nervous system is thought to play a fundamental role since the presence of sympathoadrenal hyperactivity has been proven.[1] To treat resistant HT, an invasive technique has recently been developed, which involves percutaneous radiofrequency ablation of the sympathetic nervous system via a catheter deployed at the level of the renal arteries.[2]

We describe the case of a 32-year-old woman with an unremarkable past medical history and longstanding hypertensive crises with values of 230/120 mmHg accompanied by sweating, headache, trembling and tachycardia and lasting from 10 min to several hours. Between crises, her blood pressure (BP) remained high. Other causes of secondary HT were excluded, as was pheochromocytoma, after several catecholamine determinations and diverse imaging studies.[3] The final diagnosis of exclusion was pseudopheochromocytoma, and treatment was initiated with alpha- and beta-blockers, as well as psychotherapy. At the last medical visit, after an 8-year history of HT, the patient had mild left ventricular hypertrophy, with a left ventricular mass index of 116 g/m^2. The HT crises became less frequent, but did not disappear; HT figures remained high despite treatment with 5 drugs, including a diuretic. Percutaneous renal denervation was indicated and performed using right femoral artery access with deep sedation and a Symplicity radiofrequency catheter (Medtronic). Two 2-min radiofrequency applications were made at the level of the left, right and right accessory renal arteries (Fig. 1). The procedure was uneventful and the patient was discharged at 24 h. Fifteen days before the procedure, 24-h ambulatory blood pressure monitoring recorded a mean systolic BP of 156 mmHg and a mean diastolic BP of 112 mmHg (Fig. 2A). At 4 weeks after the procedure, the patient—following the same drug regimen—underwent ambulatory blood pressure monitoring again, with a mean systolic BP of 111 mmHg and a mean diastolic BP of 80 mmHg (Fig. 2B). At 5 months, there had been no recurrence of symptomatic HT and BP values were within the normal range; the patient's drug regimen included only 1 antihypertensive agent.

The physiopathology of pseudopheochromocytoma is currently unknown, although the principle mechanism is thought to be activation of the sympathetic nervous system (increased dopamine and epinephrine secretion and some hypersensitivity of the adrenergic receptors), often associated with an emotional factor.[1] Given how little is known, treatment is usually complex and includes 3 approaches: antihypertensive treatment (a regimen of alpha- and beta-blockers is usually recommended); psychopharmacologic treatment (antidepressants and benzodiazepines), and psychotherapy, although in 40% of patients or more it is ineffective.[4] Sympathetic nervous system ablation may be a therapeutic option in the subgroup of patients with resistant HT and paroxysmal crises associated with proven sympathetic hyperactivity. To our knowledge, this is the first description of a case of pseudopheochromocytoma efficiently treated by percutaneous ablation of the sympathetic renal arteries. We consider it likely that patients with this condition may have been enrolled in

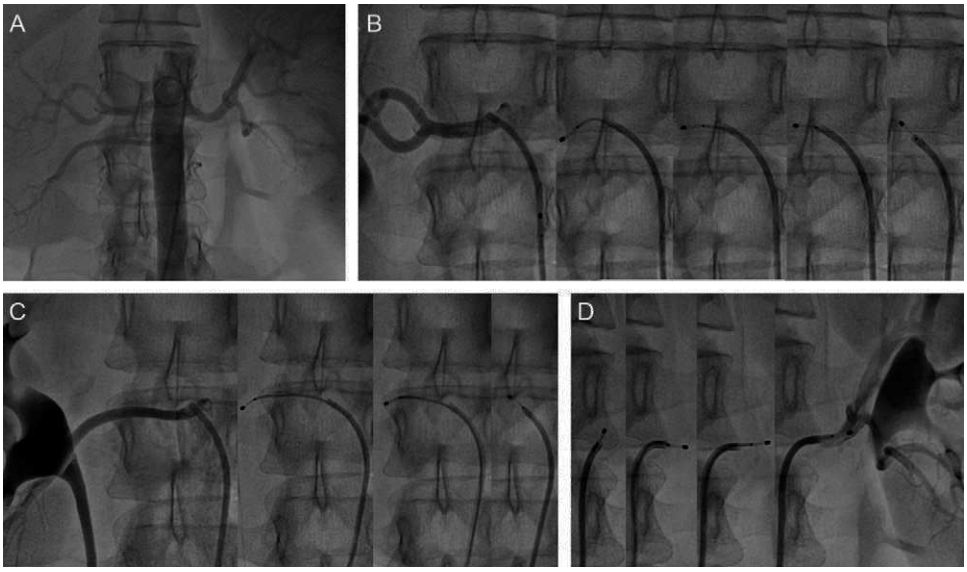

Figure 1. A: aortogram showing a principal left renal artery and a right renal artery with an accessory artery. B: 4 circumferential radiofrequency applications, 5 mm apart, at the level of the right renal artery. C: 3 applications in the right renal accessory artery. D: 3 applications at the level of the left renal accessory artery.

the Symplicity HTN (Renal Denervation in Patients With Uncontrolled Hypertension) studies. Although we cannot totally exclude a placebo effect for the intervention in this patient, preprocedural ambulatory blood pressure monitoring during refreshing sleep showed high BP levels that clearly improved postprocedure, reducing the likelihood of a placebo effect. The randomized Symplicity HTN-2 study demonstrated that renal denervation was a means of controlling BP in patients with resistant HT but 10% to 20% of patients did not respond.[2] In future, we will have to identify the subgroup of patients who, a priori, have a high probability of responding. These patients with resistant HT and paroxysmal crises secondary to adrenergic hyperactivity seem ideal candidates for this technique. The Symplicity HTN studies excluded patients with accessory renal arteries; the spectacular response of our patient could also be related to accessory artery ablation, although this is pure speculation. Notwithstanding, the effectiveness of

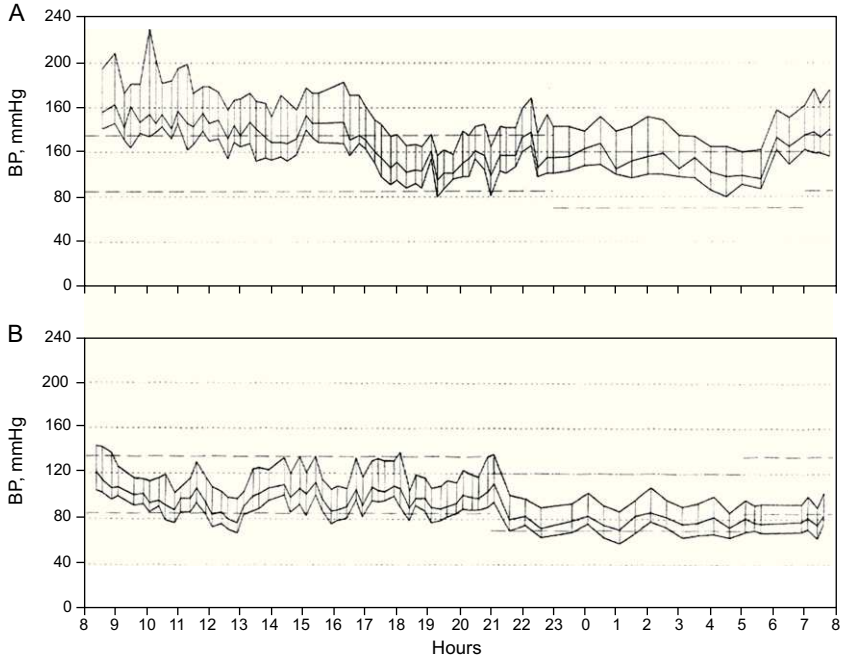

Figure 2. 24-h ambulatory blood pressure monitoring. A: baseline (daytime mSBP, 163 mmHg; night-time mSBP, 140 mmHg; average mSBP, 156 mmHg; daytime mDBP, 117 mmHg; night-time mDBP, 100 mmHg; average mDBP, 112 mmHg; B: at 1 month post-renal ablation (daytime mSBP, 116 mmHg; night-time mSBP, 100 mmHg; average mSBP, 111 mmHg; daytime mDBP, 85 mmHg; night-time mDBP, 71 mmHg; average mDBP, 80 mmHg). BP, blood pressure; mDBP, mean diastolic blood pressure; mSBP, mean systolic blood pressure.

percutaneous renal denervation needs corroboration through a longer follow-up.

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Knowledge of Cardiac Disease Among Hospitalized Patients

Grado de conocimiento sobre su enfermedad cardiaca entre los pacientes hospitalizados

To the Editor,

Clinicians have a wealth of resources available to help them take existing evidence into account when making decisions. However, patients are the ones who actually have to live with the disease, so educating them should be a priority if they are to be able to adequately self-manage their condition. Clinical practice guidelines for some pathologies have made recommendations regarding patient education,[1,2] but levels of patient knowledge are not all they should be.[3] Our aim was to assess patients' level of knowledge about their disease amongst those admitted to our unit.

We interviewed 100 randomly selected patients from those admitted to the cardiology department of our tertiary hospital in March 2012. Two cardiologists independently conducted verbal interviews using a pro-forma, closed-ended survey (Table 1). The study was blinded with regard to the physicians and nurses treating the patients interviewed. On admission, patients received information about their condition and the reason for admission. They also went through the nursing admission program and received written information on where they would be sent and details of their assigned physician (who visited and informed the patient daily), as well as receiving and completing informed consent forms. Subsequent statistical analysis was performed using SPSS/PC 17 (SPSS Inc., Chicago, Illiniois, United States). Continuous variables were expressed as means and confidence intervals, categorical variables as absolute numbers and percentages. Multivariate analysis was performed using binary logistic regression. Significance was set at $P<.05$.

The study population's baseline characteristics are shown in Table 2. The median time-to-interview was day 3 [interquartile range, days 2-4]. Of those interviewed, 11% did not know the reason for their admission, 19% could not say which hospital service they were in, and 17% thought they had been admitted to cardiac surgery. Furthermore, 61% did not know their physician's name, 24% did not know what kind of heart disease they were experiencing, 32% could not provide information on the tests they had received, and 29% could not say what type of treatment they would be given. With regard to disease severity, 23% could not say how severe their disease was, 29% thought their disease was less severe than it actually was, and 22% were not sure whether the disease was relevant to their prognosis. Finally, 9% did not know

Table 1
Survey Form Used, With Possible Response Options in Brackets

General data	Hospital affiliation Date of admission and date questionnaire completed
Socio-demographic data	Level of education (none-no high school diploma/high school diploma/baccalaureate-vocational training/university) Professional sector (primary/secondary/tertiary) Social context (rural/urban)
Data on admission	Characteristics of admission (urgent/programmed) Service (cardiology/cardiac surgery/don't know) Reason for admission (arrhythmia/chest pain/dyspnea/syncope/other/don't know) Name of attending physician Complementary tests (list)
Illness characteristics	Type (coronary/valvular/arrhythmic/pericardial/infective endocarditis/others) Severity[a] (mild/severe/very severe/don't know) Affects prognosis[b] (yes/no/don't know) Treatment (medical/interventional/surgical/device implantation/don't know) Lifestyle change on discharge (yes/no/don't know)
Information	Would like more information (yes/no/don't know) Format (paper/verbal)

[a] Illnesses categorized as serious were acute myocardial infarction, coronary disease, ventricular arrhythmias, heart failure, infective endocarditis, severe valve disease, and ventricular dysfunction. Conditions categorized as very serious were hemodynamic instability, acute pulmonary edema, complicated endocarditis, resuscitated cardiac arrest.
[b] Serious and very serious illnesses were considered to impact prognosis.