

6. Lerman LO, Lerman A. El síndrome metabólico y la enfermedad renal temprana: ¿un eslabón más de la cadena? *Rev Esp Cardiol.* 2011;64:358-60.
7. Cordero A, Laclaustra M, León M, Casasnovas JA, Grima A, Nájjar M, et al. Factores de riesgo cardiovascular y síndrome metabólico asociados con la disfunción renal subclínica: subanálisis del Registro MESYAS. *Med Clin (Barc).* 2005;125:653-8.
8. Levey AS, Coresh J, Balk E, Kausz AT, Levin A, Steffes MW, et al. National Kidney Foundation practice guidelines for chronic kidney disease: evaluation, classifica-

tion, and stratification. *Ann Intern Med.* 2003;139:137-47 [Erratum, *Ann Intern Med.* 2003;139:605].

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Noninvasive Remote Telemonitoring for Ambulatory Patients With Heart Failure and Emergency Department Services

Telemonitorización no invasiva en pacientes con insuficiencia cardíaca y servicios de urgencias hospitalarios

To the Editor,

We have read with interest the article by Domingo et al.¹ on the impact of the noninvasive remote telemonitoring of ambulatory patients with heart failure (HF), which demonstrates a reduction in the number of hospitalizations and hospital days.

Emergency department (ED) staff are aware of the complexity of detecting patients at risk of revisits. In fact, we have developed specific guidelines and consensus statements supported by scientific associations,² training and outreach programs,³ and specific units associated with the ED, such as the observation room or short-stay unit, allowing us to monitor patient progress in the first 24 to 72 h.⁴⁻⁶ These allow us to stratify risk more effectively and to minimize the risk of revisit, readmission, and short-term mortality.

A growing body of evidence has shown the usefulness of structured multidisciplinary units and of developing noninvasive telemonitoring programs for outpatients with HF and suggests that these strategies may become widespread in the future.^{1,7} Thus, to increase our understanding of the profile of patients at short-term risk of readmission for HF treated in the ED, as well as candidates for such strategies, we conducted a multicenter prospective nonintervention study that included all HF patients attended in 19 Spanish EDs for 2 months. We recorded epidemiological variables, cardiovascular risk factors, and associated diseases. The dependent variable was readmission at 30 days. Conventional statistical tests were used for the bivariate analysis, and multivariate logistic regression analysis was performed to control for confounding factors. The study included 2431 patients (mean age 78 ± 10 years). There were 508 (24%) readmissions at 30 days. The profile of patients most likely to be readmitted at 30 days included a history of HF ($P < .0001$), diabetes mellitus ($P < .0001$) and ischemic heart disease ($P = .093$), and patients in whom the precipitating factor was anemia ($P = .035$) or hypertensive crisis ($P = .038$). Multivariate analysis showed that only 3 variables were significantly associated with readmission: a history of HF (odds ratio [OR] = 1.69; 95% confidence interval [CI], 1.09-2.63), anemia (OR = 1.51; 95%CI, 1.02-2.24), and hypertensive crisis as a precipitating factor (OR = 2.24, 95% CI, 1.06-4.72).

It is clear that multiple factors, both clinical and social, are involved in patient revisits to the ED and that the emergency physician should be aware of these factors and be involved in their management.⁵ In this regard, patients with an episode of decompensated chronic HF triggered by anemia or hypertensive

crisis are likely to benefit more from intensive early follow-up. In addition, from the point of view of the ED staff, if patients received an early medical visit after discharge or noninvasive remote telemonitoring devices in structured multidisciplinary HF units, as shown by Domingo et al.,¹ then postdischarge monitoring would be improved and probably lead to lower readmission rates and HF-associated mortality.

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REFERENCES

1. Domingo M, Lupón J, González B, Crespo E, López E, López R, et al. Telemonitorización no invasiva en pacientes ambulatorios con insuficiencia cardíaca: efecto en el número de hospitalizaciones, días de ingreso y calidad de vida. Estudio CARME (Catalan Remote Management Evaluation). *Rev Esp Cardiol.* 2011;64:277-85.
2. Llorens P, Miró O, Martín-Sánchez FJ, Herrero-Puente P, Jacob-Rodríguez J, Gil V, et al. Manejo de la insuficiencia cardíaca aguda en los servicios de urgencias, emergencias y unidades adscritas. Documento de consenso del Grupo de Insuficiencia Cardíaca Aguda de la Sociedad Española de Medicina de Urgencias y Emergencias (ICA-SEMES). *Emergencias.* 2011;23:119-39.
3. Escoda R, Llorens P, Martín-Sánchez FJ, Jacob J, Pavón J, Gil C, et al. Efecto de una intervención formativa en urgencias en la mejora del manejo y el tratamiento de la insuficiencia cardíaca aguda. *Emergencias.* 2010;22:331-7.
4. Estella A, Pérez-Bello Fontaiña L, Sánchez Angulo JI, Toledo Coello MD, del Águila Quirós D. Actividad asistencial en la unidad de observación de un hospital de segundo nivel. *Emergencias.* 2009;21:95-8.
5. González-Armengol JJ, Fernández Alonso C, Martín-Sánchez FJ, González-del Castillo J, López-Farré A, Elvira C, et al. Actividad de una unidad de corta estancia en urgencias de un hospital terciario: cuatro años de experiencia. *Emergencias.* 2009;21:87-94.
6. Miró O, Llorens P, Martín-Sánchez FJ, Herrero P, Pavón J, Pérez-Dura MJ, et al. Factores pronósticos a corto plazo en los ancianos atendidos en urgencias por insuficiencia cardíaca aguda. *Rev Esp Cardiol.* 2009;62:757-64.
7. Ellery S, Pakrashi T, Paul V, Sack S. Predicting mortality and rehospitalization in heart failure patients with home monitoring-the Home CARE pilot study. *Clin Res Cardiol.* 2006;95 Suppl 3:29-35.

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