

in independent ambulatory patients—is an independent predictor of disability and of future events such as readmission and mortality. According to recent data, the list of geriatric factors should also include malnutrition. A recent study by Honda et al.⁵ has shown that nutritional status is one of the strongest prognostic predictors in patients older than 65 years with acute HF. This work validates and stresses the considerable usefulness of an easily obtained parameter, the Geriatric Nutritional Risk Index, which has better prognostic value than other nutritional indices. In addition, it supports the incorporation of this parameter in risk evaluation and stratification in elderly patients with HF.

The prognostic value of natriuretic peptides is well known. A recent work, based on 7 European registries and conducted in patients older and younger than 75 years hospitalized for acute HF, studied the prognostic value and reasons for success or failure of a reduction in N-terminal pro-B-type natriuretic peptide (NT-proBNP) (in absolute values or as a percentage vs admission levels) to target values at discharge.⁶ Older patients were more likely to be women, with nonischemic HF and preserved ejection fraction, higher NT-proBNP concentrations at admission and discharge, and a lower glomerular filtration rate. The higher the absolute NT-proBNP values and the lower their relative decrease, the higher the 6-month mortality in both groups; this increase was significant in the older group. With similar NT-proBNP values, mortality was very similar, independently of age. Thus, NT-proBNP showed a prognostic value in acute HF that was independent of age, but certain factors more frequent in older patients (such as higher NT-proBNP values at admission, anemia, and nonischemic etiology) made it more difficult to achieve lower values and greater reductions in this marker at discharge, with a consequent increase in mortality.

Pablo Díez-Villanueva,^{a,*} Albert Ariza-Solé,^b Javier López,^c Héctor García-Pardo,^d and Manuel Martínez-Sellés^e

^aServicio de Cardiología, Hospital Universitario de La Princesa, Madrid, Spain

^bServicio de Cardiología, Hospital Universitario de Bellvitge, L'Hospitalet de Llobregat, Barcelona, Spain

^cServicio de Cardiología, Instituto de Ciencias del Corazón (ICICOR), Hospital Clínico de Valladolid, Valladolid, Spain

^dServicio de Cardiología, Hospital Santos Reyes, Aranda de Duero, Burgos, Spain

^eServicio de Cardiología, Hospital General Universitario Gregorio Marañón, Universidad Europea y Universidad Complutense, Madrid, Spain

*Corresponding author:

E-mail address: pablo_diez_villanueva@hotmail.com (P. Díez-Villanueva).

REFERENCES

- González-Saldivar H, Rodríguez-Pascual C, De la Morena G, et al. Influencia del Diagnóstico de Estenosis Aórtica Severa—Influence of the Severe Aortic Stenosis Diagnosis (IDEAS) Investigators. Comparison of 1-year outcome in patients with severe aorta stenosis treated conservatively or by aortic valve replacement or by percutaneous transcatheter aortic valve implantation (data from a multicenter spanish registry). *Am J Cardiol.* 2016;118:244–250.
- Leon MB, Smith CR, Mack MJ, et al. PARTNER 2 Investigators. Transcatheter or surgical aortic-valve replacement in intermediate-risk patients. *N Engl J Med.* 2016;374:1609–1620.
- Finn M, Green P. Influencia de la fragilidad del paciente en las enfermedades cardiovasculares. *Rev Esp Cardiol.* 2015;68:653–656.
- Vidán MT, Blaya-Novakova V, Sánchez E, et al. Prevalence and prognostic impact of frailty and its components in non-dependent elderly patients with heart failure. *Eur J Heart Fail.* 2016;18:869–875.
- Honda Y, Nagai T, Iwakami N, et al. NaDEF investigators. Usefulness of Geriatric Nutritional Risk Index for assessing nutritional status and its prognostic impact in patients aged ≥ 65 years with acute heart failure. *Am J Cardiol.* 2016. <http://dx.doi.org/10.1016/j.amjcard.2016.05.045>.
- Stienen S, Salah K, Eurlings LW, et al. Targeting N-terminal pro-brain natriuretic peptide in older versus younger acute decompensated heart failure patients. *JACC Heart Fail.* 2016. <http://dx.doi.org/10.1016/j.jchf.2016.05.007>.

SEE RELATED ARTICLE:

<http://dx.doi.org/10.1016/j.rec.2016.11.008>

<http://dx.doi.org/10.1016/j.rec.2016.11.015>
1885-5857/

© 2016 Sociedad Española de Cardiología. Published by Elsevier España, S.L.U. All rights reserved.

Selection of the Best of 2016 on the Management of Acute Coronary Syndromes in Elderly Patients



Selección de lo mejor del año 2016 en el tratamiento del síndrome coronario agudo en el paciente anciano

To the Editor,

The last year has seen important advances in the treatment of acute coronary syndrome (ACS) in the elderly. In the After Eighty trial,¹ 457 patients aged 80 years or older with non-ST-segment elevation ACS (NSTEMACS) were randomized to either an invasive or a conservative treatment strategy. The invasive strategy group showed a reduction in the primary outcome (acute myocardial infarction [AMI], urgent revascularization, stroke, and death during follow-up) (40.6% vs 61.4%; $P < .0001$) (Figure), with no differences in bleeding complications. Some aspects of the study merit discussion: a) only 457 (23.2%) of the 1973 patients who could be included were randomized to a group, calling into question the external validity of the results; b) no data were available on frailty and other aging-related variables, although the prevalence of comorbidities was relatively low; and c) the excessive patient

restriction in the conservative strategy group fails to reflect the real-world situation.

The MOSCA trial² included 106 patients aged 70 years or older with non-ST elevation AMI and considerable comorbidity (defined as at least 2 of the following: renal failure, dementia, peripheral vascular disease, chronic obstructive pulmonary disease, and anemia). Patients were randomized to an invasive strategy (routine coronary angiography, $n = 52$) or a conservative strategy (coronary angiography only in patients with recurrent ischemia or heart failure during hospitalization, $n = 52$). The main endpoint was the composite of all-cause mortality, AMI, and readmission for cardiac problems during follow-up. The invasive strategy failed to reduce the incidence of the primary outcome (incidence rate ratio, 0.946; 95% confidence interval [95%CI], 0.946–1.918), although there was a tendency for reduced mortality and mortality or reinfarction at 3 months, indicating that the comorbidity weight could dilute the long-term benefits of revascularization. The authors propose exploration of the tendency for short-term benefits in larger studies. In addition, the low revascularization rate in the invasive branch (58%) could reflect the severity and complexity of the coronary anatomy in these patients.

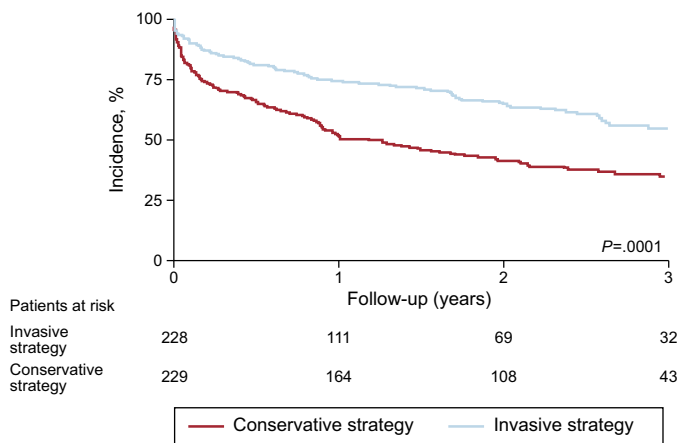


Figure. Cumulative incidence of acute myocardial infarction, urgent revascularization, stroke, and death during follow-up in the After Eighty trial.¹ Adapted with permission from Tegn et al.¹

The prognostic impact of frailty in ACS has been confirmed in a registry³ that included 202 patients aged 75 years or older with type I AMI treated in 4 Spanish hospitals. Frailty was evaluated using the SHARE-FI index, which evaluates self-perceived fatigue, appetite, functional difficulties, physical activity, and grip strength. In total, 71 patients (35.1%) met the criteria for frailty. The frail patients were older and had more comorbidities (mean Charlson Comorbidity Index, 8.4 vs 6.6; $P < .001$). Despite showing a higher-risk profile, with higher scores on the GRACE (154.4 vs 141.0; $P < .001$) and CRUSADE (48.2% vs 34.1%; $P < .001$) scales, frail patients underwent fewer coronary angiography studies (66.2% vs 93.1%; $P < .001$). The main endpoint (cardiac death or infarction during hospitalization) was more frequent in frail patients (9.9% vs 1.5%; $P = .006$), largely due to higher mortality. The incidence of major bleeding (a hemoglobin decrease > 3 g/dL or need for surgery or transfusion during hospitalization) was also higher in frail patients (19.7% vs 9.2%; $P = .032$). Despite the small sample size, frailty could predict mortality independently of age, sex, creatinine, diabetes mellitus, and GRACE score.

In a subsequent publication, González Salinas et al.⁴ analyzed the ability of frailty to predict bleeding risk in 190 patients from the same series. Frailty predicted a higher incidence of bleeding complications, despite a lower use of dual antiplatelet therapy and the invasive strategy; this predictive ability was independent of age (hazard ratio, 2.7; 95%CI, 1.2–5.7; $P = .012$).

Thus, these findings strengthen the association of frailty with conservative treatment and worse prognosis in ACS. The question underlying all of these findings is whether frail patients should really be treated differently.⁵ In an attempt to respond to this question, the LONGEVO-SCA registry⁶ has been designed, with funding from the Geriatric Cardiology Section of the Spanish

Society of Cardiology. The registry plans to include 500 patients aged 75 years or older with NSTEMI/ACS from more than 50 Spanish hospitals; a comprehensive geriatric assessment will be performed (frailty, comorbidities, functional and cognitive status, quality of life) and the researchers will analyze the association of these variables with treatment and prognosis at 6 months.

Albert Ariza-Solé,^{a*} Pablo Díez-Villanueva,^b Antoni Carol,^c Clara Bonanad,^d Oriol Alegre,^a and Jaime Aboal^e

^aUnidad Coronaria, Área de Enfermedades del Corazón, Servicio de Cardiología, Hospital Universitario de Bellvitge, L'Hospitalet de Llobregat, Barcelona, Spain

^bServicio de Cardiología, Hospital Universitario de La Princesa, Madrid, Spain

^cServicio de Cardiología, Hospital Moisès Broggi, Sant Joan Despí, Barcelona, Spain

^dServicio de Cardiología, Hospital Clínico de Valencia, Valencia, Spain

^eServicio de Cardiología, Hospital Universitario Josep Trueta, Girona, Spain

* Corresponding author:

E-mail address: aariza@bellvitgehospital.cat (A. Ariza-Solé).

Available online 30 November 2016

REFERENCES

- Tegn N, Abdelnoor M, Aaberge L, et al. After Eighty study investigators. Invasive versus conservative strategy in patients aged 80 years or older with non-ST-elevation myocardial infarction or unstable angina pectoris (After Eighty study): an open-label randomised controlled trial. *Lancet*. 2016;387:1057–1065.
- Sanchis J, Núñez E, Barrabés JA, et al. Randomized comparison between the invasive and conservative strategies in comorbid elderly patients with non-ST elevation myocardial infarction. *Eur J Intern Med*. 2016. <http://dx.doi.org/10.1016/j.ijem.2016.07.003>.
- Alonso Salinas GL, Sanmartín Fernández M, Pascual Izco M, et al. Frailty predicts major bleeding within 30 days in elderly patients with acute coronary syndrome. *Int J Cardiol*. 2016;222:590–593.
- Alonso Salinas GL, Sanmartín Fernández M, Pascual Izco M, et al. Frailty is a short-term prognostic marker in acute coronary syndrome of elderly patients. *Eur Heart J Acute Cardiovasc Care*. 2016. <http://dx.doi.org/10.1177/2048872616644909>.
- Finn M, Green P. Influencia de la fragilidad del paciente en las enfermedades cardiovasculares. *Rev Esp Cardiol*. 2015;68:653–656.
- Alegre O, Ariza-Solé A, Vidán MT, et al. Impact of frailty and other geriatric syndromes on clinical management and outcomes in elderly patients with non-ST-segment elevation acute coronary syndromes: rationale and design of the LONGEVO-SCA Registry. *Clin Cardiol*. 2016;39:373–377.

SEE RELATED ARTICLE:

<http://dx.doi.org/10.1016/j.rec.2016.11.015>

<http://dx.doi.org/10.1016/j.rec.2016.11.008>

1885-5857/

© 2016 Sociedad Española de Cardiología. Published by Elsevier España, S.L.U. All rights reserved.

Selection of the Best of 2016 on Cardiac Pacing: Leadless Pacing



Selección de lo mejor del año 2016 en estimulación cardiaca: estimulación sin cables

To the Editor,

Transvenous pacemaker implantation carries a not insignificant risk of adverse events. Most of these events are related to the generator pocket or the electrode.¹

To avoid these complications, attempts have been made over the past 40 years or more to produce a system in which the electrode and generator constitute a single device that can be implanted within the heart; that is, a device known today as the leadless pacemaker (LPM). Initially, the available technology did not allow such a device to be created for clinical use and progress remained at a standstill for some time. However, advances in miniaturization, battery longevity, implantation equipment, and communication systems, among other factors, have since allowed the creation of the LPM models that are used today.

The first LPM system available for use in humans was the Nanostim device by St. Jude Medical (Figure 1). Subsequently, the