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Neurohormonal treatment in tako-tsubo cardiomyopathy precipitated by COVID-19. Response

Tratamiento neurohormonal en miocardiopatía de tako-tsubo *precipitada por COVID-19. Respuesta*

To the Editor,

The neurohormonal treatment received by our patient comprised a beta-blocker, bisoprolol, and an angiotensin-converting enzyme inhibitor (ACE-I), enalapril. At 3 months of follow-up, he had no further episodes of chest pain or signs of heart failure.

As mentioned in the Letter, although treatment with beta-blockers may slow the effect of catecholamine release thought to be the pathophysiological mechanism behind tako-tsubo cardiomyopathy, clinical benefits have not been demonstrated. However, treatment with ACE-I, which has shown improved survival in a registry, could contribute to ventricular remodeling.

In the case of coronavirus disease 2019 (COVID-19), treatment with ACE-I has generated controversy. When the disease first emerged, animal studies[1] demonstrated that coronavirus uses angiotensin-converting enzyme 2 (ACE-2), an aminopeptidase with abundant expression in the lungs and heart, as a receptor for cell entry. Treatment with ACE-I increases the expression of ACE-2, leading to the hypothesis that it may affect susceptibility to the infection or its virulence. Later, a case-control study[2] with more than 6000 patients found no evidence of an association between these drugs and COVID-19; current protocols therefore recommend continuing treatment with ACE-I in patients with SARS-CoV-2 infection in the absence of other contraindications.

As tako-tsubo cardiomyopathy is a rare complication of SARS-CoV-2 infection, to date there are no specific studies on the recommended treatment. The only treatment with evidence on survival in COVID-19 is corticosteroids[3] (dexamethasone), possibly due to its effect on the inflammatory cascade that occurs in this disease. Bearing in mind that the systemic inflammatory status could contribute to the development of tako-tsubo cardiomyopathy, treatment with dexamethasone may affect its onset and outcome, although specific studies are needed to assess this.

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Clinical management indicators for the cardiovascular area. A note for the debate

Indicadores de gestión clínica en el área cardiovascular. Un apunte para el debate

To the Editor,

The editorial by González-Juanatey et al.[1] is of great interest and stimulates the debate on the metrics to be used by cardiology units (CU) (services, clinical management units, institutes, etc) to assess their management results. The focus of the proposal and the 111 indicators it contains deserve joint reflection by those responsible for CUs, which could be promoted by the Spanish Society of Cardiology (SEC). The following points are offered in relation to this proposal:

- "Measure outcomes. Add value". In line with Porter's strategy of "adding value",[2] the authors suggest that health outcome indicators should be prioritized. Although this approach is correct, only a third of the proposed indicators—many of which overlap—are outcome indicators (mortality, readmissions, complications). It is also difficult to understand the rationale underlying some of the process or activity indicators (does

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having a first face-to-face consultations rate higher than the national average really "add value"?). The dashboard for the CU management team should be fed with outcome indicators as well as cost indicators, but the latter are absent from the proposal.

- "Process management." The proposal includes several elements related to an approach to health care management processes that should be debated. Establishing outcome indicators by functional unit (cardiac catheterization, levels of care, etc) within the CU gives rise to overlapping indicators, probably unnecessary, that should be measured at the end of the process rather than in each functional unit (at discharge or at 30 days). The metrics by functional unit should probably not be monitored by management, but by the head of the CU. Another debatable aspect is that, if integrated health care process indicators are really included, then most of them should refer to the hospitals as a whole and others to their geographic-population catchment area.[3] It probably makes more sense to measure in-hospital or 30-day mortality due to heart failure in hospitals as a whole rather than just in CUs, given that most patients with this disease are treated in hospitals by internal medicine departments; likewise, should not "readmissions after 30 days for heart failure" be an indicator for the whole area, including primary care? If internal medicine or primary care (such as emergencies and, in many hospitals, level 2 and 3 care) are outside the scope of CU management, then they would not be "integrated" health care processes. That is, the CU would not be providing a care service that aligns in which all the health care departments involved in the process are aligned with the best scientific evidence available and in which health care managers promote collaboration between all units in the preparation, implementation, management, and assessment of health care process outcomes.

- "To compare, adjust." The proposed indicators, such as those of INCARDIO, lack adjustment systems.[4] This approach to monitoring the performance of a given CU over time may make sense, assuming that patient profiles remain stable (which is a lot to assume). However, because patients' characteristics affect outcomes regardless of the quality of care, the indicators must be adjusted to the independent variables (age, sex, presence of comorbidities, etc) of the patients treated in each CU, if they are to be compared with each other.[2,5] The need to "adjust" is applicable to the comparison of other indicators between different units, such as those relating to the frequency of unit use. These indicators should be weighted by the age and sex of the reference population.

There are many more elements in the proposal of González-Juanatey et al.[1] that should be debated. These include the number of indicators, hospital mortality vs 30-day mortality, the absence of health level indicators, and other elements proposed by Porter,[2] such as Patient Reported Experience (PREM) and Patient-Reported Outcome Measure (PROM), the information and data recording system itself, and so on. In fact, the list of such elements exceeds the scope of this letter, whose aim is to warmly acknowledge the editorial by González-Juanatey et al.[1] and encourage the SEC to promote its debate.

CONFLICTS OF INTEREST

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Clinical management indicators for the cardiovascular area. A note for the debate. Response

Indicadores de gestión clínica en el área cardiovascular. Un apunte para el debate. Respuesta

To the Editor,

We read with interest the letter by Dr Elola Somoza regarding our editorial published in *Revista Española de Cardiología* (REC)[1] in which we reflect on components of clinical management, focusing on cardiovascular medicine. We included a proposal for organiza-

tion, as well as indicators that would allow us both to determine the efficiency of our activity and to make comparisons with certain benchmarks and outcomes from centers of excellence, and, essentially, identify opportunities for improvement. In his letter, Dr Elola Somoza makes some statements that we would like to clarify, although we believe that a careful reading of the editorial would clarify most of his questions.

In his letter, Dr Elola Somoza suggests that only a third of our indicators refer to health outcomes and that in many cases they are "overlapping". This is not the case. Two thirds are outcome indicators. It all depends on what Dr Elola Somoza understands as an outcome indicator. Is low frequency of hospitalization not, perhaps, a good outcome indicator of quality of outpatient care? And, if by overlapping he means redundant, we did not believe it necessary to clarify that in the design of key outcome indicators, such as