Echocardiography, Subclinical Cardiac Damage and Indexing Method

Ecocardiografía, daño cardíaco subclínico y método de indexación

FRANK ALEXANDER BUSTAMANTE MAYURI[1]

I read with great interest the article published by Travetto and Argento entitled Detection of subclinical cardiac damage *by echocardiography in a hypertensive population with a high prevalence of obesity: discrepancies observed according to the indexing method used*, (1) which highlights the clinical relevance of using height-based allometric indices to detect target organ damage in hypertensive patients who are overweight or obese. The purpose of this letter is to point out certain limitations identified in the study, which could help improve future research of this kind.

The study's findings, which show a significant underestimation of left ventricular hypertrophy (LVH) and left atrial enlargement (LAE) when using body surface area-based indexing (BSAI), are particularly relevant in the context of a population where obesity is highly prevalent. The fact that up to 38% of patients were reclassified when using allometric height-based indexing (AHI) highlights the potential clinical impact of this methodological choice on cardiovascular risk assessment. However, despite the results obtained, the study has some important limitations.

As this is a single-center, cross-sectional study without long-term follow-up, it is not possible to establish causal relationships or evaluate the prognostic value of the different indexing methods. This contrasts with studies such as that by Chirinos et al., (2) where AHI not only improved LVH detection but also showed a greater predictive value for cardiovascular events over time. Similarly, De Simone et al. (3) identified that left ventricular mass indexed to height2.7 was associated with a higher population-attributable risk of events in the Strong Heart Study, which included a long-term follow-up.

Furthermore, the results were not validated in other populations or in different clinical contexts. This issue has been addressed by Liao et al., (4) who, in a large, diverse cohort, concluded that AHI offered greater diagnostic accuracy, particularly in overweight or obese women. Kuznetsova et al. (5), meanwhile, analyzed the discrepancies between BSAI and AHI according to the degree of obesity in a multinational cohort, and found results similar to those reported by Travetto et al., but with broader validation.

For all these reasons, I believe that future research should apply multicenter and longitudinal designs with external validation, evaluate the reproducibility of measurements, and incorporate technologies that allow for the automatic calculation of allometric formulas in echocardiographic equipments.

I congratulate the authors for rising awareness of this issue and agree that it is urgent to incorporate AHI as standard clinical practice in hypertensive patients who are overweight or obese.

Sincerely,

Ethical considerations

Not applicable.

Conflicts of interest

None declared.

(See authors' conflict of interests forms on the web).

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AUTHORS' REPLY

We thank the reader for his interest in our study and acknowledge that it has certain limitations that should be considered when interpreting the results. However, we believe that the reported findings have fulfilled the objectives for which the study was proposed, raising awareness of this problem, which is of increasing interest and importance in clinical practice, not only in the field of Cardiology but also in other specialties, in which indexing structures to body surface area is not appropriate for addressing the phenomenon under study in overweight and obese subjects.

Sincerely,

Carolina Travetto, Laura Argento MTSAC

The Right Ventricle in Transthyretin Amyloidosis: Looking Beyond the Left Ventricle

El ventrículo derecho en la amiloidosis por transtiretina: mirar más allá del ventrículo izquierdo

GUILLERMO LINIADO[1], MTSAC,

The study by Elissamburu et al., recently published in Revista Argentina de Cardiología, provides relevant data on right ventricular (RV) function in patients with transthyretin cardiac amyloidosis (ATTR-CM). In a cohort of 154 patients, almost half presented with RV systolic dysfunction measured by TAPSE, which was independently associated with mortality, hospitalization for heart failure, and the onset of atrial fibrillation. (1)

This finding is important because care for cardiac amyloidosis has historically focused on the left ventricle, while the right ventricle has tended to be overlooked. However, in clinical practice, RV dysfunction has a decisive prognostic weight, not only in amyloidosis but also in most cases of heart failure, especially in those with preserved ejection fraction. (2,3) In this sense, the study reinforces a well-known concept: the evolution of patients with HF depends on both the right and left sides of the heart.

The practical relevance of this study lies in highlighting that a simple, accessible, and reproducible parameter such as TAPSE can be useful in risk stratification. Given the complexity of amyloidosis, which often requires sophisticated studies for diagnosis, the possibility of having a simple echocardiographic index available in any laboratory is a significant contribution. Systematically incorporating TAPSE measurement in patients with suspected or confirmed ATTR-CM can help identify higher-risk subgroups and guide specific decisions.

For example, a patient with reduced TAPSE could benefit from closer monitoring, a lower threshold for initiating anticoagulation upon the onset of atrial fibrillation, or earlier evaluation for specific therapies. In a clinical setting where access to disease-modifying drugs such as tafamidis remains limited, having parameters that allow for better selection of who to prioritize becomes particularly useful in real-world practice.

At the same time, we must not lose sight of a general consideration: when a new prognostic marker is proposed, its true value lies in demonstrating increased capacity over what we already know. If RV dysfunction appears almost inevitably in patients with advanced heart failure or in those with elevated NT-proBNP and troponin, it is worth asking how much TAPSE adds beyond confirming an already evident risk. The study by Elissamburu et al. shows statistical independence, but future studies should demonstrate added value over models that integrate biomarkers and clinical variables.

In short, this work invites us to look at the right

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ventricle with the importance it deserves. It is not a secondary player, but a key piece in the evolution of ATTR-CM. But the message is broader: in all heart failure conditions, and particularly in those with preserved ejection fraction, RV function is a major determinant of outcome. Incorporating its routine assessment not only enriches our understanding of the disease, but can also translate into more timely and beneficial decisions for our patients. (4)

Ethical considerations
Not applicable.

Conflicts of interest
None declared.

(See authors' conflict of interests forms on the web).

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AUTHORS' REPLY

We thank Dr. Guillermo Liniado for his valuable comments on our recently published work. We fully agree on the importance of systematically evaluating right ventricular function in transthyretin amyloid cardiomyopathy.

Our study showed that decreased TAPSE is independently associated with mortality, hospitalization for heart failure, and the onset of atrial fibrillation, even after adjusting for NT-proBNP and troponin. This independence suggests that TAPSE provides complementary prognostic information, which we consider a relevant finding for clinical practice.

We recognize, as Dr. Liniado rightly points out, the need to validate its incremental value in multivariable models that include biomarkers and other clinical variables. We also agree that its simplicity and reproducibility make it an accessible tool for risk stratification and guiding therapeutic decisions.

We reiterate our gratitude for your observations, which enrich the debate and promote comprehensive evaluation of the right ventricle in this complex disease.

The authors

How Helpful Is a Risk Score Actually?

¿Cuánto nos ayuda realmente un score de riesgo?

PAULA PÉREZ TERNS[1, MTSAC]

The article by Lobo et al. in the last issue of the Argentine Journal of Cardiology (1) presents an uncomfortable truth: in patients with type 2 diabetes, cardiovascular risk scores are not always consistent and do not provide equivalent information. In this cohort of patients in primary prevention, the authors observed different results after using various calculators. Depending on the model, between 10% and 70% of patients were considered to be at high risk. What do clinicians do with that information?

The discordance between tools is more than a statistical problem. This is a practical issue: which patients should receive more intensive treatment? In which patients should I be more aggressive in managing their lipids or in choosing antidiabetic drugs with cardiovascular benefits? This study shows that, although there is good correlation between scores, the actual concordance (defined as the agreement in the final classification) is low. This leaves us, once again, relying on clinical judgment as our compass.

Diabetes is not a uniform condition, but rather one with different phenotypes and clinical courses. Most

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importantly, the cardiovascular risk associated with diabetes varies from person to person. For years, it was assumed that type 2 diabetes mellitus was a heart disease equivalent. Today we know that this is a dangerous simplification. However, we have moved to the opposite extreme, where scores have become increasingly complex, incorporating dozens of variables... and yet there is still a lack of consensus. (3)

In this context, the search for subclinical disease, such as carotid atheromatosis, which was evaluated in this study, makes sense again. Finding a plaque in an "intermediate" risk patient may justify more aggressive interventions. (4) Conversely, if a patient has no other risk factors and shows no signs of vascular damage, we can be more cautious.

The message is clear: scores help, but they do not decide for us. In the meantime, while we await a simple, locally calibrated, and pragmatic model, we go on doing our best: listening to patients, reviewing their medical records, interpreting their exams, and making decisions collaboratively. Sometimes, this can be more valuable than any algorithm. (5)

Ethical considerations

Not applicable.

Conflicts of interest

None declared.

(See authors' conflict of interests forms on the web).

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AUTHORS' REPLY

We greatly appreciate your thorough review and valuable feedback on our work. We fully agree that the heterogeneity of cardiovascular risk scores in patients with type 2 diabetes poses a challenge not only in terms of methodology, but also for decision-making in clinical practice. It is noteworthy to mention that risk scores depend on the population in which they were developed, which may affect their applicability and accuracy in different contexts. The variability of the same risk score across different populations is not a new issue. Brindle et al. addressed this problem by comparing the Framingham risk score among 71 727 patients in 27 studies. This reflects the difficulty of applying a risk score to a population other than the one in which it was developed. (Brindle P., Beswick A., Fahey T., Ebrahim S. Heart 2006;92:1752-1759).

As previously mentioned, the differences between the various tools require physicians to integrate evidence with clinical judgment, the patient's individual history, and, to a growing extent, the search for markers of subclinical damage. We believe this is a key point: cardiovascular risk scores are a useful tool for coordinating the use of resources, but they do not replace comprehensive assessment or shared decision-making. Rather, they complement these processes.

We also agree with the observation on how the paradigm has evolved, starting from the idea that all type 2 diabetes cases are a heart disease equivalent (NCEP ATP III, JAMA, 2001; 285: 2486–2497; SAC Consensus on Cardiovascular Prevention, Rev. Argent. Cardiol. 2020;88:9–3), to the current situation in which the complexity of the models does not always translate into clear utility in clinical practice. In this scenario, the identification of carotid plaques or other indicators of subclinical vascular disease may provide additional clinically relevant criteria for personalizing treatment intensity.

As the recent consensus statements of the Argentine Society of Cardiology have recommended, risk stratification should consider not only available scores but also the assessment of markers of subclinical vascular damage, particularly in patients with type 2 diabetes in primary prevention. (SAC Consensus Statement on Cardiovascular Prevention. Rev Argent Cardiol. 2020;88:9-3; Rev Argent Cardiol. 2024;92:F-19). Both documents underscore the need to move toward simpler models that are calibrated to our population and useful for daily clinical practice, in line with the considerations outlined in the letter.

In short, the discussion raised in your letter enriches the debate and reinforces the need to move towards simpler prediction models that are better calibrated to local populations and, most importantly, can be effectively implemented in daily practice. Meanwhile, and as is well emphasized, the combination of science, clinical experience, and dialog with the patient remains our most robust tool.

Yours sincerely,

The authors