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EDITORIAL COMMENT

Clinical findings remain paramount☆

E a clínica continua soberana

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Personalized medicine, patient-centered and data-driven, using artificial intelligence techniques, is a new paradigm for the physician-patient relationship that emphasizes clinical reasoning and the idea that a human being is a complex biological system made up of multiple metabolic, behavioral and environmental factors, in order to maximize the benefits of the therapeutic approach adopted.[1]

Mortality from cardiovascular disease (CVD) has decreased significantly in recent years in Europe, and in some countries is now exceeded in men by mortality from cancer.[2] Aging and increasingly unwell populations with multiple comorbidities that exponentially increase complexity are an additional challenge for clinicians, as diagnostic and prognostic algorithms must be revised and updated in light of new epidemiological findings.

A good example of the new reality is that of cancer patients with pulmonary embolism (PE), in whom clinical presentation with hemodynamic instability is known to carry a poor prognosis, leading them to be classified as at high risk for adverse events. However, hemodynamically stable cancer patients stratified as at intermediate risk are more of a challenge. The European Society of Cardiology guidelines on PE have called for them to be reclassified as intermediate-high or intermediate-low risk according to the presence or absence of right ventricular dysfunction and elevated cardiac biomarkers.[3]

In the early 2000s, Kucher et al.[4] highlighted the value of assessing the pretest probability of PE in conjunction with the shock index (SI), calculated as heart rate divided by systolic blood pressure, in starting appropriate therapy, an approach that resulted in reduced 30-day mortality, while Ozsu et al.[5] combined measurement of troponin levels and echocardiographic assessment with the SI, improving stratification of 30-day mortality risk in PE patients. In another cohort of patients with PE, Bach et al.[6] showed that circulatory parameters, easily obtained and at low cost, have the same or better prognostic value than the clinical scores that were applied in their study, which included both the original and the simplified pulmonary embolism severity index.

In this issue of the *Journal*, Ferreira et al.[7] apply a similar model to that of Kucher et al.[4] in a single-center retrospective cohort of cancer patients, extending the observation period to one year. The prospect of stratifying patients at initial presentation is an attractive one, especially in terms of predicting one-year mortality risk. However, caution is warranted in assessing the results presented by the authors in their analysis, which seems to be more of a hypothesis-generating study. Hypotheses such as theirs need to be tested in multiple cohorts with large study populations in which interactions between prognostic factors can be adequately analyzed, and must then be validated in other populations. In this case, it is particularly important to include the type and staging of the patient's cancer, since these factors will inevitably have a significant impact on medium- and long-term prognosis. In Ferreira et al.'s study, right ventricular myocardial damage was rare, and data on

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cancer type and stage were not collected, which limits the applicability of their findings.

Nevertheless, the study makes an additional contribution, which is its focus on the importance of the patient's history and physical examination in modern practice, in which technology[8] using a wide range of laboratory and imaging exams plays a central role in clinical decision-making. Ozsu et al.[5] propose combining history and physical examination with imaging methods, and thus emphasize the need for technology, while according to Grüne,[9] correct assessment of the results of anamnesis and clinical examination (which includes diagnostic tests) is essential for the implementation of value-based medicine, currently a hot topic. Ferreira et al.[7] take us back to the first principle of semiology, observation of vital signs.

The physical examination remains an essential part of the physician-patient relationship, even though there is nowadays less emphasis in medical training on the skills required to formulate and confirm hypotheses, mainly because of the greater value placed on data provided by diagnostic exams.[10] An approach guided by data from physical examination – such as the SI – undoubtedly comes closer to the ideal of personalized medicine, enhancing the value and effectiveness of health care, as well as enabling physicians to widen their understanding of their patients as complex human beings in all their dimensions: physical, mental, and spiritual.[1]

Conflicts of interest

The author has no conflicts of interest to declare.

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