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RISK SCORES: TOOLS WITH LIMITATIONS THAT DO NOT REPLACE CLINICAL JUDGMENT BUT ONLY COMPLEMENT IT

To the Editor:

I have read with attention the article by Cho and colleagues[1] in which they evaluated the association among the Controlling Nutritional Status score, prognostic nutritional index, and Geriatric Nutritional Risk Index with 1-year mortality in 1927 patients undergoing valvular heart surgery. The authors clearly stated how, by adding a preoperative nutritional assessment to the European System for Cardiac Operative Risk Evaluation II, it improves its predictive ability, especially with the Controlling Nutritional Status score.[1] The authors must be congratulated for such an interesting publication that discusses the importance of assessing frailty parameters such as nutritional status of the patient in preoperative risk stratification.

Risk scores are tools that should be considered as a complement for clinical judgment in the decision-making process for a given patient. In fact, since risk scores are based on mathematical models, they may exhibit many limitations. A mathematical model attempting to define a biological and binary phenomenon such as "dead or alive" is a population-based statistical analysis but not an individual one. This may result in a loss of predictive power. One of the most important limitations of risk scores is the fact they have been constructed on the basis of regional data set about specific surgical procedures.[2] Furthermore, a loss in performance and efficiency can also be observed when they are not properly upgraded. The presence of frailty in the patient increases their risk, and this must be identified and quantified and should be entered into the equation that allows an estimated risk to be calculated. Preoperative nutritional assessment is an important metric in assessing postoperative risk. This assessment might be further improved by assessing mobility, cognitive status, and activities of daily living, the 3 other pillars of frailty, as previously stated out by several authors.[3]

In addition to nutritional parameters, the following should be assessed: (1) mobility, such as the Afilalo 5-meter walk test[4] or the Altisen test; (2) cognitive status by means of cognitive tests, such as the Folstein Mini-Mental test or the Mini-Cog test; and (3) assessment of the patient's daily activity by different tests such as the Timed up and Go Test or by Basic and Instrumental Activities or Daily Living.

At the same time, joining the 4 aforementioned parameters, different frailty scales, such as the Edmonton Frailty Scale, Fried's scale, Rockwood's Frailty Index, Katz Index, or the Essential Frailty Toolset, should be applied.[5] By associating these scales to the to the classic risk scores in cardiac surgery, the risk/benefit equation can be dramatically improved. Thus, the more accurate the risk assessment of death, the more helpful it would be to both the patient's and the heart team's management decisions.

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