Modified Rockwood frailty index is predictive of adverse outcomes in elderly populations undergoing major abdominal surgery: is it a practical tool though?

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Dear Editor,

Aguilar-Frasco et al. [1] present an innovative and compelling article elucidating the modified Rockwood frailty index (mRFI) as an effective pre-operative assessment tool for patients aged over 65 years undergoing major abdominal surgery. The authors found that frailty identified by the mRFI was related to peri-operative complications, increased length of hospital stay, and higher mortality, among other clinically relevant parameters¹. After discussion at our departmental journal club, we have some comments for the authors and readers to consider when interpreting this article.

The authors have done well to adjust for potential confounders, including urgent surgery, type of surgery, and frailty [1]. There are however further intra-operative variables that must be considered and adjusted for as potential confounders, including volume of fluid administration [2], periods of oxygen desaturation [2], procedure length [3, 4], analgesia method, surgeon's skill, hemodynamic instability, blood loss > 500 mL, hematocrit < 24%, and blood transfusions [5, 6]. Such variables are documented to effect outcomes following emergent major abdominal surgery. We also wonder whether the patients in Aguilar-Frasco et al.'s¹ study were informed of their frailty scores, and if this was explained to them, given that health attitudes hold significant influence on motivations involved in mobility and post-operative adjustment, we

believe that it is difficult to rule out the Hawthorne effect as a potential predictor of outcomes.

The mRFI is a 50-point scoring criterion relating to activities of daily living, health attitudes, function, nutrition, and co-morbidities [1]. The sensitivity and specificity heavily suggest the mRFI should be used in conjunction with other pre-operative assessment tools rather than a sole means of risk assessment. We have interpreted the mRFI tool to be an extensive and likely time-consuming index, which will further lengthen pre-operative assessments—we therefore question the practical clinical applicability of such a tool. On the contrary, the Rockwood clinical frailty scale is a 9-point scoring system, which, although more subjective, is also effective in discerning patients at risk of adverse outcomes following major abdominal surgeries [7]. It is our opinion that more work still needs to be done to develop easy to use, effective, objective, and pragmatic assessment tools to assist surgeons in risk assessing patients.

Moreover, Aguilar-Frasco et al. [1] have identified a novel method of identifying elderly patients at risk of adverse outcomes following major abdominal surgery. Further work should be performed to design and validate streamlined and easy to use tools to provide a time-efficient, but effective method of assessing our elderly patients prior to surgery.

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