

P-POSSUM for onco-surgeries: Does one suit fits all!

The prediction of outcome after major oncological surgeries is always useful for clinicians. It helps in various decisions making like judicious use of resources, patient counseling, perioperative planning etc. This issue publishes an interesting retrospective study titled “Validity of P-POSSUM in Adult Cancer Surgery (PACS)”.^[1]

It would be prejudiced to assume that the P-POSSUM scoring is ineffective in predicting the outcomes accurately as there are various confounding factors in its implementation in the cohort of heterogeneous surgeries. The postoperative morbidity and mortality in patients undergoing onco-surgeries not only depends on noted 18 parameters (12 physiological factors and 6 operative factors) but also many other parameters. P-POSSUM includes the presence of malignancy as one of the operative factors for predicting the outcome. The outcome in onco-surgeries shall depend on various factors like patient physical status and preoperative cancer treatment like radiotherapy or chemotherapy.^[2] These factors would affect the various body physiology and thus would affect the overall perioperative outcome. These factors need to be considered for prediction mortality. Probably, these concerns have motivated researchers to look for other models and have modified the existing prediction models like CR-POSSUM, etc. The perioperative outcome may also be related to the type and site of surgeries. Hence, homogenous, standardized and consistent outcome measures like scoring system may provide more accurate risk prediction.^[3,4] Considering these facts, modified POSSUM scoring system have been developed for sub-specialty surgeries, namely, CR-POSSUM for colorectal surgeries, O-POSSUM for surgery on esophagus, etc. The use of various risk prediction models have their limitations, may over-predict complications/morbidity and thus their usage in clinical practice has mixed opinions. One of the reasons remains inclusion of primarily patient-related factors with some additional intraoperative factors. The outcome after onco-surgery is also related to gender, requirement of blood transfusion, site of lesion, timing of surgery, pre-operative serum brain natriuretic protein level and postoperative factors like blood transfusion, infections, surgical complications etc.^[5,6] Many of the included factors like blood loss during surgery need to be specified for objective assessment. There is an ambiguity in timing of preoperative evaluation and it does not consider the presence of various comorbidities, whether optimized

preoperatively or not. The postoperative outcome is also related to surgical technique and this consideration is absent in many of the existing prediction models. It has been reported that the use of minimally invasive procedures like laparoscopic or robotic techniques has a better postoperative outcome compared to open major surgeries but prediction using POSSUM, and CR-POSSUM has overestimated the predicted outcome.^[7-9]

The prediction models such as POSSUM predicts morbidity without any attribution to a specific cause. This fact limits the clinical utility for decreasing cause-specific morbidity in the postoperative period. Hence, a risk-adjusted prediction model would be desirable to identify for the probability of specific complications.^[9,10]

The Clavien-Dindo classification is a standardized system of grading the severity of complications based on treatment and therapy to manage complications.^[11,12] The authors have used this scoring system, which is an objective method of categorizing postoperative complications, preventing the subjective classification of minor or major complications. However, the perioperative complications need to be stratified further like localized, systemic or those requiring immediate intervention.^[9,10,12] Such categorization would be helpful for auditing the care and steps required for improving such occurrence.^[13]

To summarize, P-POSSUM scoring system has evolved as a statistical tool that can be used for performance evaluation of various types of surgical procedures. It predicts the estimated operative mortality rates as an objective measure of outcome assessment. Its limitation needs to be understood in the context of specific surgeries and score interpreted accordingly. More precise and better prediction tools are desirable inclusive of factors related to particular surgical procedure.

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