An e-score is born

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Strategies to improve outcomes after resection for esophagus cancer have focused on preoperative evaluation, multidisciplinary evaluation and management, operative technique, and immediate perioperative management.¹ In 2007, a surgical Apgar score (SAS) based on the intraoperative course during general and vascular surgery was developed to improve risk stratification. The SAS incorporates heart rate (lowest), mean arterial pressure (lowest), and blood loss.² This study analyzes an analog of the SAS, applied to esophagectomy patients.³ The esophagectomy SAS (eSAS), but not any of the 3 component variables, was associated with major morbidity, including transfusion, cardiac arrest, myocardial infarction, deep venous thrombosis, pulmonary embolism, coma, stroke, acute renal failure, systemic inflammatory response syndrome, sepsis, pneumonia, and ventilator use of ≥ 48 hours.

The original Apgar score was developed to improve risk stratification of newborns at the time of delivery, and included a triage system of care based on the score.⁴ Like the Apgar test, the eSAS is a simple system, using only 3 variables, each of which is objective and immediately available in the operating room. The eSAS, however, does not direct or triage care specifically. If used judiciously, the eSAS might improve resource utilization and decrease complications through closer monitoring, as well as identification of cases for quality improvement.

The authors point out that this simple intraoperative scoring system may contribute to an overall risk stratification process, which would include preoperative variable (age, use of induction therapy, pulmonary function, Charlson comorbidity index) as well as postoperative events that predict mortality (eg, pneumonia).⁵ Although the authors have validated the SAS for esophagectomy in this population, the use of the eSAS in general practice should

be adopted only after further study in larger patient populations.

In summary, although much is known regarding the importance of preoperative evaluation and postoperative care, this study demonstrates that intraoperative factors can improve risk stratification regarding major morbidity after esophagectomy. Although low blood pressure and a high level of blood loss may seem intuitively to be predictive of outcomes, this study validated use of the SAS for esophageal resection. In the future, significant effort should be dedicated to integrating preoperative, intraoperative, and postoperative factors to improve risk stratification for patients undergoing esophagectomy.

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Dr Virginia Apgar.

Central Message

This study validates a model using intraoperative factors for risk stratification regarding major morbidity after esophagectomy.

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