



INTISARI

Latar belakang: Perawatan *Intensive Care Unit* (ICU) postoperatif dapat meningkatkan luaran pada pasien bedah berisiko tinggi. *Surgical Apgar Score* (SAS) dikembangkan untuk memprediksi morbiditas dan mortalitas postoperatif, namun kemampuannya dalam memprediksi kebutuhan ICU masih perlu dievaluasi.

Tujuan: Mengetahui penggunaan SAS sebagai prediktor admisi ICU postoperatif

Metode penelitian: Studi kohort prospektif ini melibatkan 314 pasien bedah di RSUP Dr. Sardjito selama Juni hingga Juli 2025. Data mengenai demografi, status praoperasi, variabel intraoperatif (termasuk SAS), perawatan ICU, dan mortalitas postoperatif dianalisis secara bivariat dan multivariat.

Hasil: Skor SAS rendah signifikan secara statistik berhubungan dengan peningkatan risiko masuk ICU postoperatif, berdasarkan analisis multivariat terutama pada kategori SAS 0–2 (OR 326,45 $p = 0,016$) dan 5–6 (OR 47,39 $p = 0,037$) dengan kurva ROC SAS terhadap admisi ICU postoperatif menunjukkan nilai AUC sebesar 0,701 ($p=0,001$; 95% CI: 0,62–0,78) dan cut off nilai SAS sebesar 6,5. Tindakan bedah saraf dan bedah toraks vaskular, komorbiditas kardiovaskular, penggunaan vasopresor intraoperatif, serta durasi operasi lebih dari 2 jam secara statistik juga merupakan prediktor kuat admisi ICU postoperatif. Angka mortalitas postoperatif pada studi ini sebesar 3,5% terutama berhubungan dengan durasi operasi > 6 jam (faktor prediktor) dan jenis pembedahan lain (faktor protektif). Penggunaan SAS bersama faktor klinis lain seperti jenis tindakan, komorbiditas, dan durasi operasi dapat menjadi pertimbangan dalam menentukan kebutuhan admisi ICU postoperatif.

Kesimpulan: SAS dapat dipergunakan untuk memprediksi kebutuhan ICU postoperatif. Durasi operasi >6 jam dan jenis pembedahan lain merupakan faktor yang paling konsisten dan signifikan sebagai prediktor mortalitas.

Kata kunci: *Surgical Apgar Score*, Admisi ICU, Mortalitas, Perioperatif



ABSTRACT

Background: Postoperative Intensive Care Unit (ICU) care can improve outcomes in high-risk surgical patients. The Surgical Apgar Score (SAS) was developed to predict postoperative morbidity and mortality; however, its ability to predict ICU admission remains unclear.

Objective: To evaluate the utility of the SAS as a predictor of postoperative ICU admission.

Methods: This prospective cohort study included 314 surgical patients at Dr. Sardjito General Hospital between June and July 2025. Data on demographics, preoperative status, intraoperative variables (including the SAS), ICU admission, and postoperative mortality were analyzed using both bivariate and multivariate methods.

Results: Lower SAS scores were significantly associated with an increased risk of postoperative ICU admission in multivariate analysis, particularly in SAS categories 0–2 (OR 326.45; $p = 0.016$) and 5–6 (OR 47.39; $p = 0.037$). The ROC curve of SAS for predicting postoperative ICU admission yielded an AUC of 0.701 ($p = 0.001$; 95% CI: 0.62–0.78) with a cut-off value of 6.5. Neurosurgical and vascular thoracic procedures, cardiovascular comorbidities, intraoperative vasopressor use, and surgical duration greater than 2 hours were also strong predictors of postoperative ICU admission. The postoperative mortality rate was 3.5%, mainly associated with surgical duration exceeding 6 hours (predictors factor) and other types of surgery (protective factor). The SAS, with clinical factors such as procedure type, comorbidities, and surgical duration, may help guide the decision for postoperative ICU admission.

Conclusion: The SAS is a useful tool for predicting postoperative ICU requirements. Surgical duration of more than 6 hours and other types of surgery were the most consistent and significant predictors of mortality.

Keywords: Surgical Apgar Score, ICU admission, mortality, perioperative