

Abstract

Introduction: The Surgical Apgar score (SAS) presents a simple, immediate and an objective means of determining surgical outcomes. The score has not been widely validated in low resource settings where it would be most valuable. This study aimed to evaluate its accuracy and applicability for patients undergoing laparotomy at Kenyatta National Hospital (KNH), Nairobi.

Methodology: Using intra-operative records, we calculated Surgical Apgar Scores for 152 patients during a 6-month study between March 2011 and August 2011. Our main outcome measures were the incidence of major postoperative complications and/or death within 30 days of surgery.

Results: The mean age of the patients evaluated was 35.18 years, range of 14 to 80 years. Most laparotomies were emergency procedures (86.8%) with mean duration for surgery of 131 minutes. The overall rate for major complications and mortality was 40.8% and 7.9% respectively. Common morbidities were superficial and deep wound infection, anastomotic leakage and wound dehiscence. The mean SAS for patients with complications was lower (4.0) compared to those without (5.73) ($p < 0.001$). Patients categorised as high risk had a 58.3% complication rate compared to low risk patients with 16.6% ($p = 0.04$). These outcomes compare favourably with other studies. The SAS demonstrated good predictive accuracy for postoperative morbidity (ROC area under the curve of 0.796, CI 0.727-0.865).

Conclusion: This study confirms the SAS as adequate in stratification of post-operative risk of major complications following laparotomy in our setting with good predictive accuracy.