

Supplementary Table 1 Sensitivity model incorporating serum albumin and hemoglobin (maximum likelihood estimation *vs* Firth)

Variable	MLE OR (95% CI)	MLE <i>P</i> value	Firth OR (95% CI)	Firth <i>P</i> value
American Society of Anesthesiologists score (per 1-point increase)	3.52 (1.02-12.13)	0.046	3.09 (0.96-9.93)	0.058
Age (per 1-year increase)	1.01 (0.95-1.08)	0.723	1.01 (0.95-1.07)	0.669
Serum albumin (per 1 g/dL increase)	2.46 (0.44-13.79)	0.307	2.20 (0.41-11.77)	0.358
Hemoglobin (per 1 g/dL increase)	0.77 (0.52-1.12)	0.169	0.81 (0.57-1.15)	0.244

This model is intended as a sensitivity analysis to reflect systemic host status; estimates remain imprecise due to limited events. Firth penalized logistic regression (sensitivity analysis to reduce small-sample bias). OR: Odds ratio; MLE: Maximum likelihood estimation.

Supplementary Table 2 Post-hoc power analysis (Wald-based normal approximation)

Model	American Society of Anesthesiologists odds ratio	beta	SE	<i>P</i> value	Approx. power	Approx. n for 80% power
Primary model (age, body mass index, sex, antibiotics)	3.02	1.105	0.611	0.071	0.44	127
Sensitivity model (age, albumin, hemoglobin)	3.52	1.259	0.631	0.046	0.51	104

Approximate post-hoc power is calculated for a two-sided alpha=0.05 test using the observed American Society of Anesthesiologists effect size. Required n for 80% power is an approximate projection assuming similar effect size and variability.