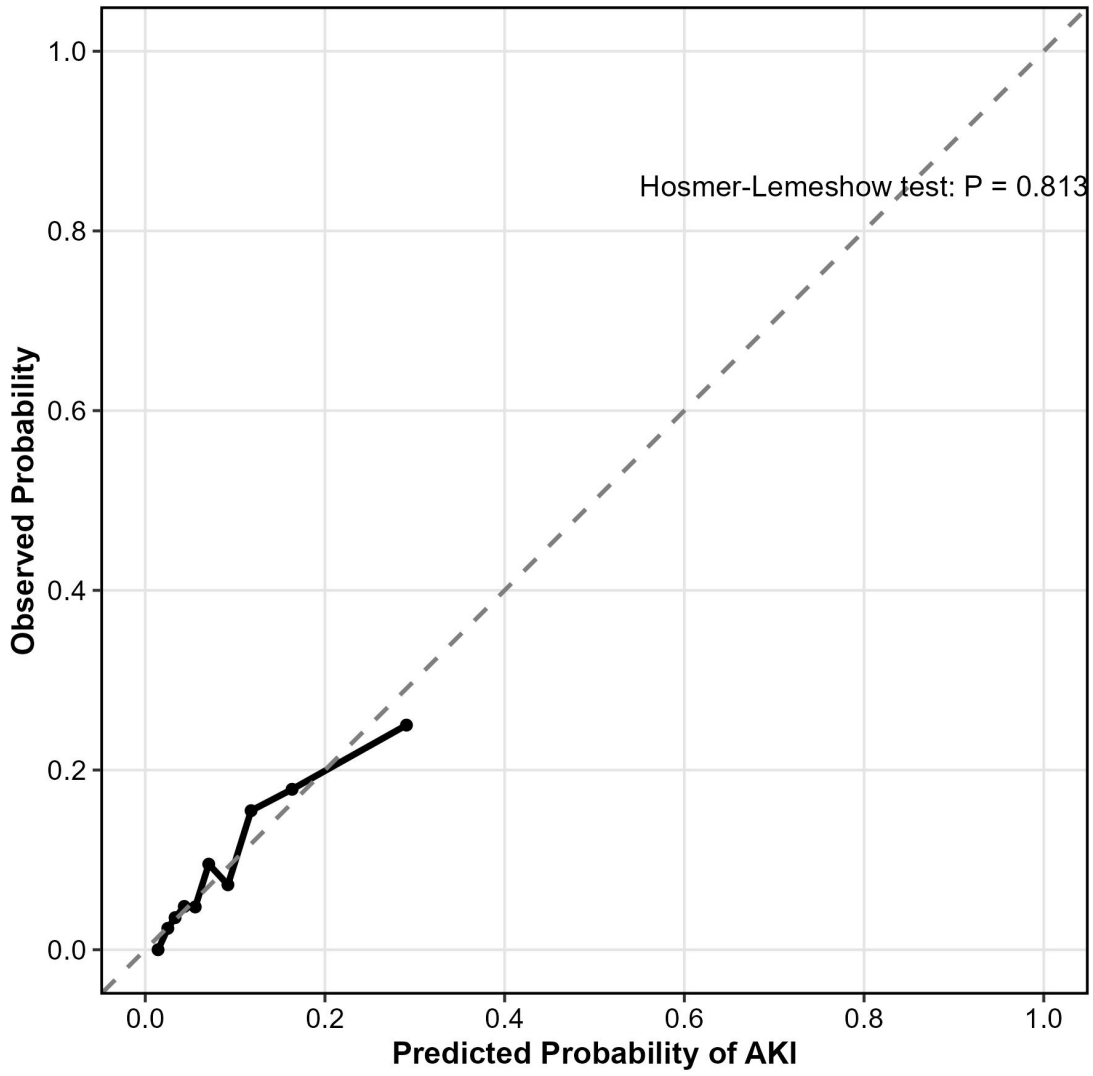
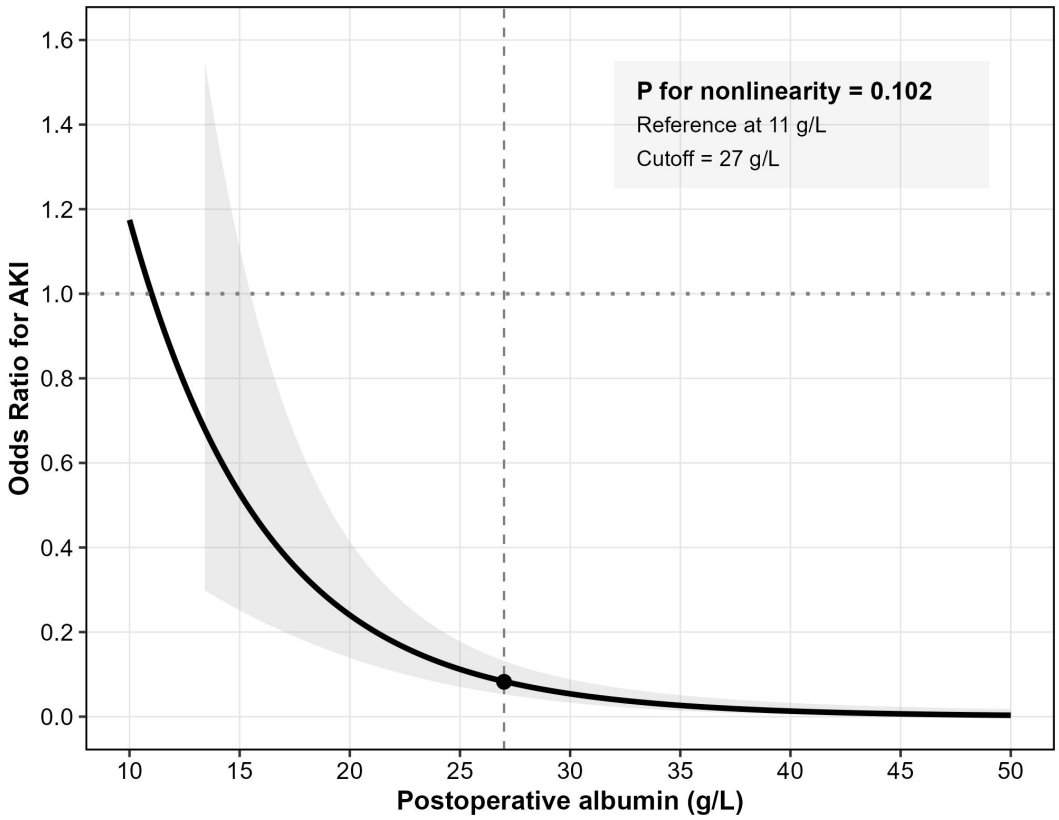
Supplementary Figures S1–S4 — Model Diagnostics

Supplementary Figures S1. Calibration curve for the multivariable logistic regression model



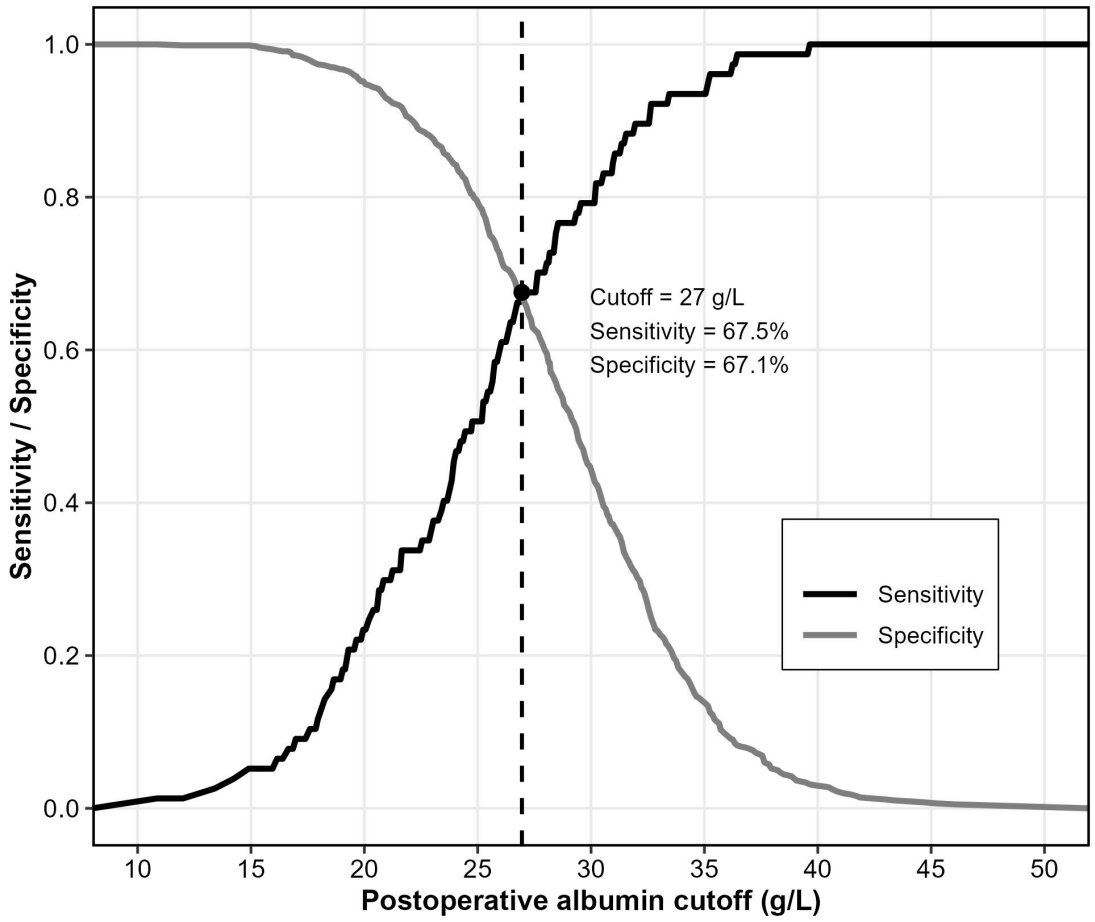
Caption: Calibration curve for the multivariable logistic regression model (Model 5). The x-axis represents predicted probabilities of acute kidney injury (AKI), and the y-axis represents observed probabilities. The diagonal dashed line indicates perfect calibration. The solid line represents the actual model performance. The Hosmer-Lemeshow test yielded a P value of 0.653, indicating no significant lack of fit, consistent with good model calibration.

Supplementary Figures S2. Restricted cubic spline (RCS) analysis for the association between postoperative albumin and AKI.



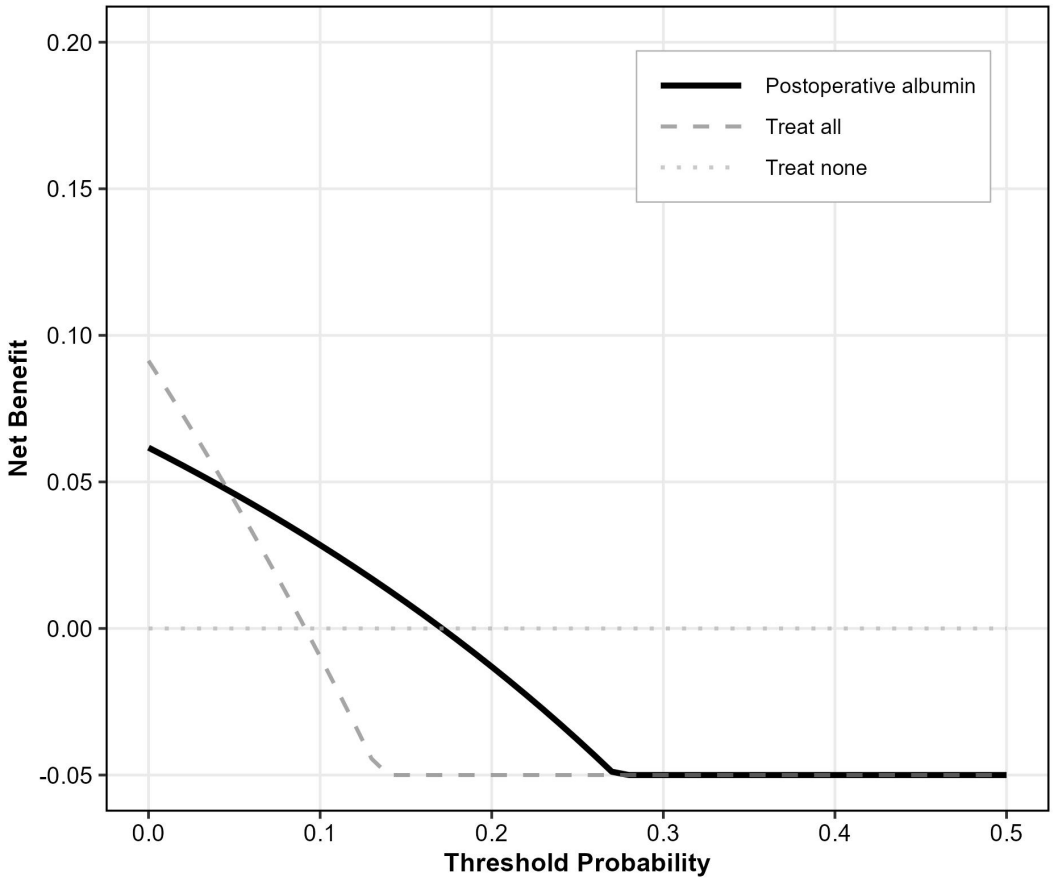
Caption: The solid black curve represents the spline model with four knots (5th, 35th, 65th, and 95th percentiles), adjusted for all covariates in Table 2, Model 5. The gray ribbon indicates the 95% confidence interval. The horizontal dotted line represents an odds ratio of 1.0. The analysis showed no significant departure from linearity (P for nonlinearity = 0.102), supporting the use of standard logistic regression.

Supplementary Figures S3. Optimal cutoff for postoperative albumin for AKI



Caption: Optimal cutoff for postoperative serum albumin for AKI. The black solid curve represents sensitivity, and the gray solid curve represents specificity as a function of the cutoff value. The vertical dashed line indicates the optimal cutoff of 27 g/L determined by the Youden index (maximizing sensitivity + specificity – 1). The black point on the sensitivity curve marks the cutoff, with the corresponding sensitivity (67.5%) and specificity (67.1%) values shown in the annotation box.

Supplementary Figures S4. Decision curve analysis (DCA) for the 27 g/L cutoff of postoperative albumin for AKI



Caption:The solid black line represents the net benefit of using postoperative albumin to guide intervention; the dashed gray line represents the "treat all" strategy; the dotted gray line represents the "treat none" strategy. The vertical dashed line indicates the 27 g/L cutoff.