

Figure S1 Kaplan-Meier curve of different TNM stages. TNM, Tumor Node Metastasis.

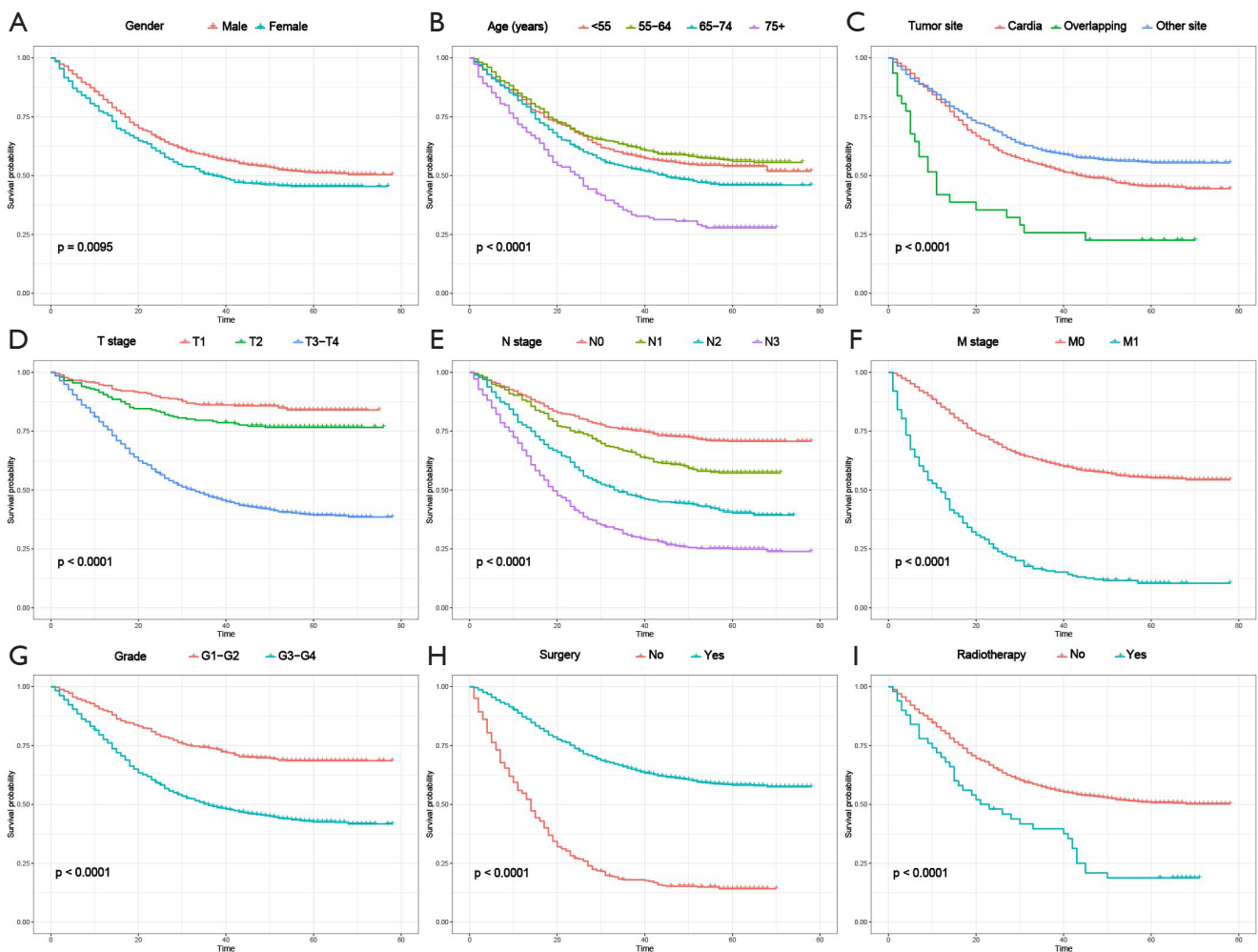
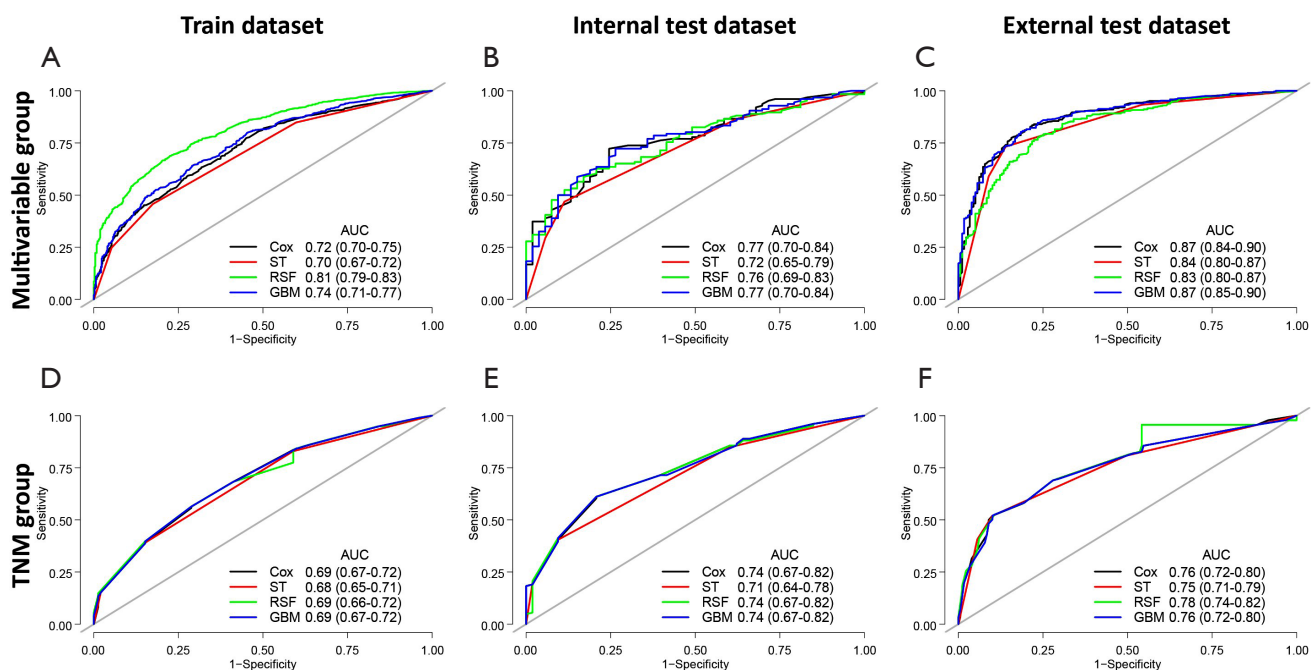
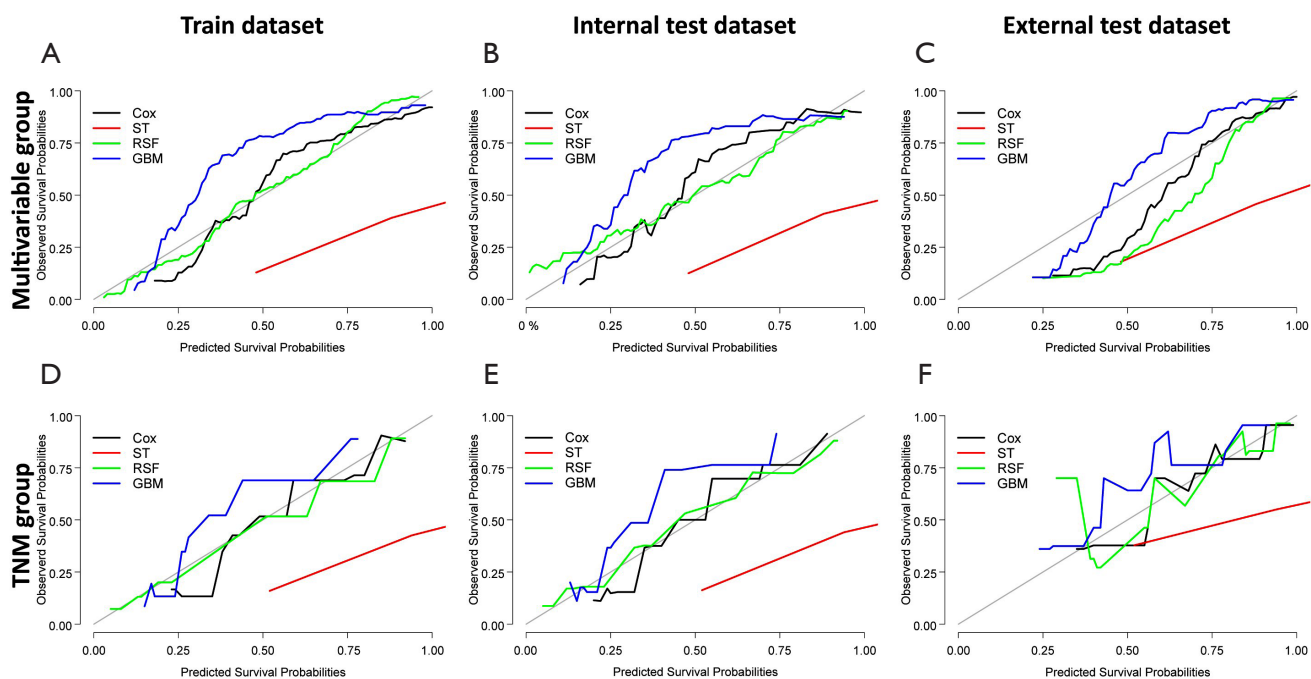


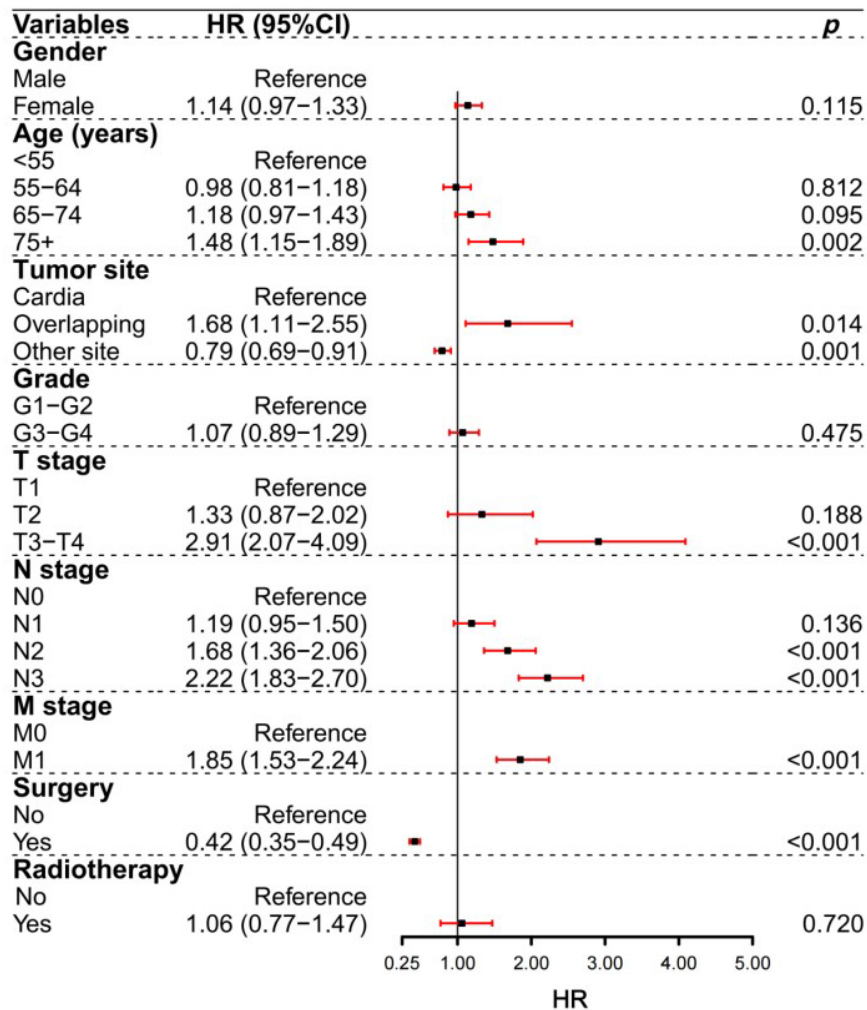
Figure S2 Kaplan-Meier curves of meaningful variables by log-rank test. (A) Kaplan-Meier curves of different genders; (B) Kaplan-Meier curves of different age; (C) Kaplan-Meier curves of different tumor sites; (D) Kaplan-Meier curves of different T stages; (E) Kaplan-Meier curves of different N stages; (F) Kaplan-Meier curves of different M stages; (G) Kaplan-Meier curves of different grades; (H) Kaplan-Meier curves of different surgery situations; (I) Kaplan-Meier curves of different radiotherapy situations. G1–G2: well-differentiated or moderately differentiated; G3–G4: poorly differentiated or undifferentiated. T stage, tumor stage; N stage, node stage; M stage, metastasis stage.



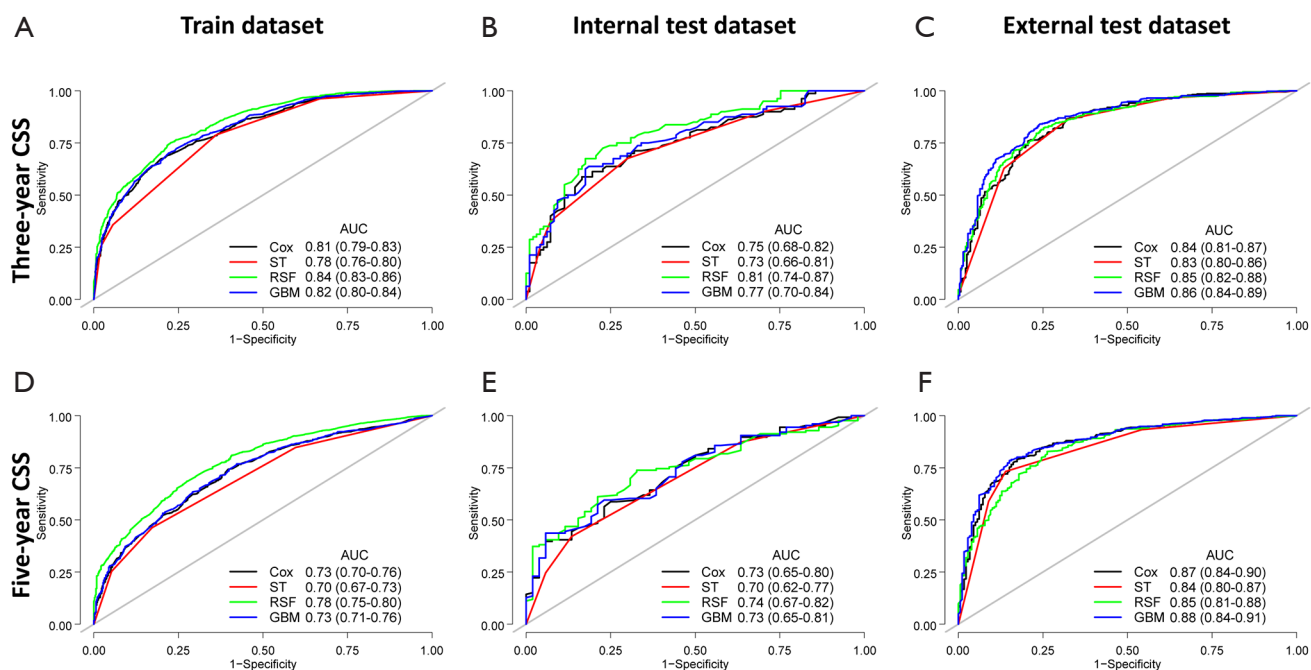
**Figure S3** The ROC curve of different models of 5-year CSS in gastric cancer patients; (A) ROC curves in 5-year CSS in multivariable group of train dataset; (B) ROC curves in 5-year CSS in multivariable group of internal test dataset; (C) ROC curves in 5-year CSS in multivariable group of external test dataset; (D) ROC curves in 5-year CSS in TNM group of train dataset; (E) ROC curves in 5-year CSS in TNM group of internal test dataset; (F) ROC curves in 5-year CSS in TNM group of external test dataset. AUC, area under the ROC curve; ROC, receiver operating characteristic; ST, survival trees; RSF, random survival forests; GBM, gradient boosting machines; TNM, Tumor Node Metastasis; CSS, cancer-specific survival.



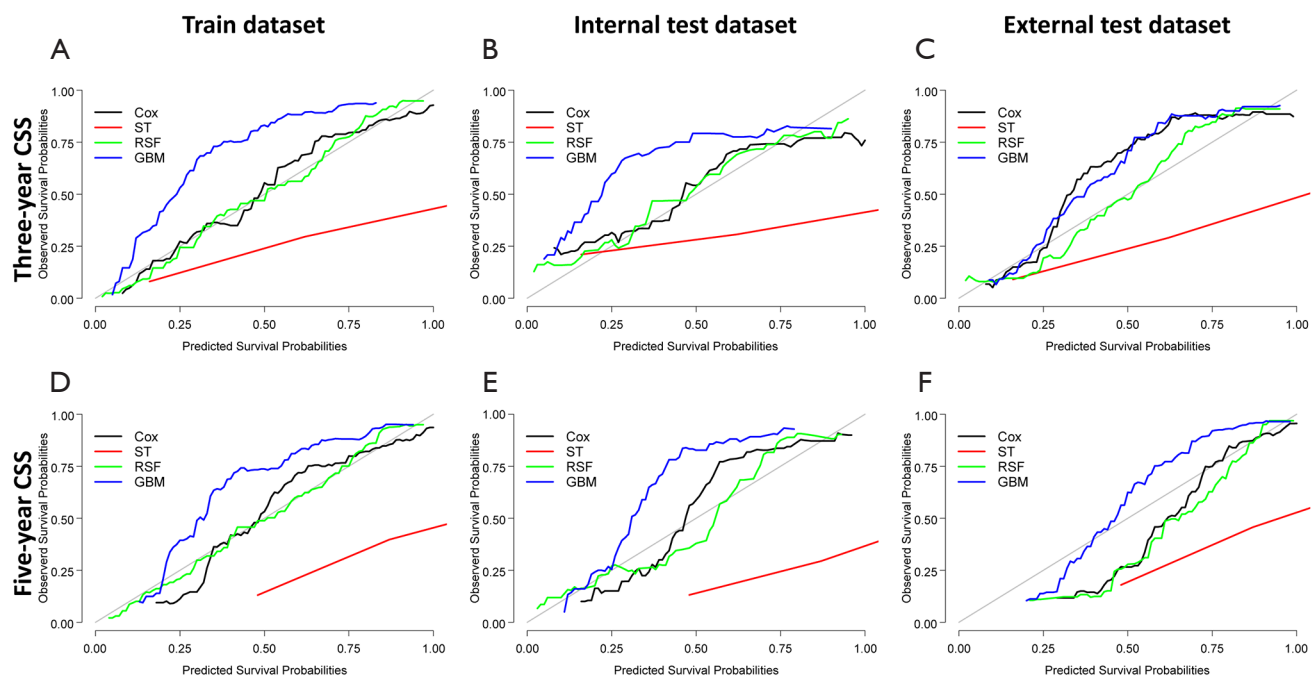
**Figure S4** The calibration curve of different models of 5-year CSS in gastric cancer patients; (A) Calibration curves in 5-year CSS in multivariable group of train dataset; (B) calibration curves in 5-year CSS in multivariable group of internal test dataset; (C) calibration curves in 5-year CSS in multivariable group of external test dataset; (D) calibration curves in 5-year CSS in TNM group of train dataset; (E) calibration curves in 5-year CSS in TNM group of internal test dataset; (F) calibration curves in 5-year CSS in TNM group of external test dataset. ST, survival trees; RSF, random survival forests; GBM, gradient boosting machines; TNM, Tumor Node Metastasis; CSS, cancer-specific survival.



**Figure S5** The outcome of multivariate Cox analysis of the specific survival of gastric cancer patients in the hospitals of the Hebei Cancer Registration Project. G1-G2: well-differentiated or moderately differentiated; G3-G4: poorly differentiated or undifferentiated. HR, hazard ratio; CI, confidence interval; T stage, tumor stage; N stage, node stage; M stage, metastasis stage.



**Figure S6** The ROC curve of different models of 3- and 5-year CSS in gastric cancer patients in the same variables group. (A) ROC curves in 3-year CSS in the same variables group of train dataset; (B) ROC curves in 3-year CSS in the same variables group of internal test dataset; (C) ROC curves in 3-year CSS in the same variables group of external test dataset; (D) ROC curves in 5-year CSS in the same variables group of train dataset; (E) ROC curves in 5-year CSS in the same variables group of internal test dataset; (F) ROC curves in 5-year CSS in the same variables group of external test dataset. AUC, area under the ROC curve; ROC, receiver operating characteristic; ST, survival trees; RSF, random survival forests; GBM, gradient boosting machines; TNM, Tumor Node Metastasis; CSS, cancer-specific survival.



**Figure S7** The calibration curve of different models of 3- and 5-year CSS in gastric cancer patients in the same variables group. (A) Calibration curves in 3-year CSS in the same variables group of train dataset; (B) calibration curves in 3-year CSS in the same variables group of internal test dataset; (C) calibration curves in 3-year CSS in the same variables group of external test dataset; (D) calibration curves in 5-year CSS in the same variables group of train dataset; (E) calibration curves in 5-year CSS in the same variables group of internal test dataset; (F) calibration curves in 5-year CSS in the same variables group of external test dataset. ST, survival trees; RSF, random survival forests; GBM, gradient boosting machines; TNM, Tumor Node Metastasis; CSS, cancer-specific survival.