TRIPOD Checklist for Prediction Model Development

Section/Topic	Item	Checklist item	Reported on page / location
Title and abstract			
Title	1	Identify the study as developing and/or validating a multivariable prediction model, the target population, and the outcome to be predicted.	Main manuscript, p. 1 (title).
Abstract	2	Provide a summary of objectives, study design, setting, participants, sample size, predictors, outcome, statistical analysis, results, and conclusions.	Main manuscript, pp. 1–2 (Abstract).
Introduction			
Background and objectives	3a	Explain the medical context (including whether diagnostic or prognostic) and rationale for developing or validating the multivariable prediction model, including references to existing models.	Main manuscript, pp. 2–3 (Introduction).
Background and objectives	3b	Specify the objectives, including whether the study describes the development or validation of the model or both.	Main manuscript, p. 3, lines 121–127.
Methods			
Source of data	4a	Describe the study design or source of data (e.g., randomized trial, cohort, or registry data), separately for the development and validation data sets, if applicable.	Main manuscript, p. 3, Section 2.1.
Source of data	4b	Specify the key study dates, including start of accrual; end of accrual; and, if applicable, end of follow-up.	Main manuscript, p. 3, lines 133–134.
Participants	5a	Specify key elements of the study setting (e.g., primary care, secondary care, general population) including number and location of centres.	Main manuscript, pp. 1 and 3; single-centre hospital-based cohort at Peking University Cancer Hospital.
Participants	5b	Describe eligibility criteria for participants.	Main manuscript, pp. 3–4, Section 2.1 and Figure 1.
Participants	5c	Give details of treatments received, if relevant.	Main manuscript, p. 3, lines 135–139; participants were untreated before baseline CT.
Outcome	6a	Clearly define the outcome that is predicted by the prediction model, including how and when assessed.	Main manuscript, p. 4, Section 2.2.
Outcome	6b	Report any actions to blind assessment of the outcome to be predicted.	Main manuscript, p. 4, lines 145–156; independent assessment by two pathologists is reported, but blinding of outcome assessors to predictors is not explicitly stated.

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Predictors	7a	Clearly define all predictors used in developing the multivariable prediction model, including how and when they were measured.	Main manuscript, pp. 3–5 and 10–11, Sections 2.3–2.4 and Table 3; Supplementary material, pp. 1–2 and 7–9.
Predictors	7b	Report any actions to blind assessment of predictors for the outcome and other predictors.	Main manuscript, p. 4, lines 167–170; CT readers were blinded to CLDN18.2 status and pathological findings.
Sample size	8	Explain how the study size was arrived at.	Main manuscript, pp. 3 and 5–6; all eligible patients in the study period were included, and model complexity was considered relative to the number of outcome events. No formal sample-size calculation is reported.
Missing data	9	Describe how missing data were handled (e.g., complete-case analysis, single imputation, multiple imputation) with details of any imputation method.	Main manuscript, p. 5, line 196; no clinically relevant data were missing.
Statistical analysis methods	10a	Describe how predictors were handled in the analyses.	Main manuscript, p. 5, lines 195–215; Supplementary material, pp. 2 and 8–9 (predictor handling and coding).
Statistical analysis methods	10b	Specify type of model, all model-building procedures (including any predictor selection), and method for internal validation.	Main manuscript, pp. 5–6, lines 204–225; Supplementary material, pp. 1–3, Methods S1–S2.
Statistical analysis methods	10d	Specify all measures used to assess model performance and, if relevant, to compare multiple models.	Main manuscript, pp. 5–6 and 11–12; Supplementary material, pp. 2–3 and 12–13.
Risk groups	11	Provide details on how risk groups were created, if done.	Main manuscript, pp. 6 and 12; Supplementary material, pp. 13–14. Score quintiles were used for secondary trend analyses; no clinical decision groups were defined.
Results			
Participants	13a	Describe the flow of participants through the study, including the number of participants with and without the outcome and, if applicable, a summary of the follow-up time. A diagram may be helpful.	Main manuscript, pp. 3–4 and 6, Figure 1 and Section 3.1.

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Participants	13b	Describe the characteristics of the participants (basic demographics, clinical features, available predictors), including the number of participants with missing data for predictors and outcome.	Main manuscript, pp. 5–9, Tables 1–2 and Sections 3.1–3.2.
Model development	14a	Specify the number of participants and outcome events in each analysis.	Main manuscript, pp. 6 and 12–13; Supplementary material, pp. 13–15, Tables S6–S8.
Model development	14b	If done, report the unadjusted association between each candidate predictor and outcome.	Main manuscript, pp. 6–9, Tables 1–2.
Model specification	15a	Present the full prediction model to allow predictions for individuals (i.e., all regression coefficients, and model intercept or baseline survival at a given time point).	Supplementary material, pp. 7–9 (full equations) and p. 18, Table S11 (uniformly shrunken Integrated model).
Model specification	15b	Explain how to use the prediction model.	Supplementary material, pp. 7–9 (probability equation, variable coding, reference categories, and model application).
Model performance	16	Report performance measures (with CIs) for the prediction model.	Main manuscript, pp. 11–12, Table 4 and Figure 3; Supplementary material, pp. 12–15, Tables S4–S8.
Discussion			
Limitations	18	Discuss any limitations of the study (such as nonrepresentative sample, few events per predictor, missing data).	Main manuscript, p. 18, lines 560–580.
Interpretation	19b	Give an overall interpretation of the results, considering objectives, limitations, and results from similar studies, and other relevant evidence.	Main manuscript, pp. 15–18, Discussion.
Implications	20	Discuss the potential clinical use of the model and implications for future research.	Main manuscript, pp. 17–19, Discussion and Conclusions.
Other information			
Supplementary information	21	Provide information about the availability of supplementary resources, such as study protocol, Web calculator, and data sets.	Main manuscript, pp. 19–20, Supplementary Materials and Data Availability Statement; Supplementary material, pp. 1–18.
Funding	22	Give the source of funding and the role of the funders for the present study.	Main manuscript, p. 19, lines 622–626.