**Supplementary Figure 1:**

Kindly refer to the animated .GIF files (ESM\_File\_2 (Suppl\_Fig\_1\_A) perfect rating, ESM\_File\_3\_(Suppl\_Fig\_1B) acceptable rating, ESM\_File\_4\_(Supp\_Fig\_1C) poor rating)

**Supplementary Figure 2:** Kaplan–Meier survival curves show survival of patients with low (red) and high (blue) spleen axial diameter (A) and craniocaudal diameter (B)



**Supplementary Figure S3.** (A) Kaplan–Meier survival curves show time to progression of patients with low (red) and high (blue) splenic volume-to-BSA ratio (n=289). (B) Kaplan–Meier survival curves show time to untreatable progression of patients with low (red) and high (blue) splenic volume-to-BSA ratio (n=289).



**Supplementary Table 1:** TRIPOD checklist

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| --- | --- | --- | --- |
| **Section/Topic** | **Item** | **Checklist Item** | **Page** |
| **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. | 1 |
| Abstract | 2 | Provide a summary of objectives, study design, setting, participants, sample size, predictors, outcome, statistical analysis, results, and conclusions. | 1 |
| **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. | 4 |
| 3b | Specify the objectives, including whether the study describes the development or validation of the model or both. | 4,5 |
| **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. | 5 |
| 4b | Specify the key study dates, including start of accrual; end of accrual; and, if applicable, end of follow-up.  | 5,6 |
| Participants | 5a | Specify key elements of the study setting (e.g., primary care, secondary care, general population) including number and location of centres. | 5 |
| 5b | Describe eligibility criteria for participants.  | 5 |
| 5c | Give details of treatments received, if relevant.  | 6 |
| Outcome | 6a | Clearly define the outcome that is predicted by the prediction model, including how and when assessed.  | 6 |
| 6b | Report any actions to blind assessment of the outcome to be predicted.  | n/a |
| Predictors | 7a | Clearly define all predictors used in developing or validating the multivariable prediction model, including how and when they were measured. | 6,7 |
| 7b | Report any actions to blind assessment of predictors for the outcome and other predictors.  | n/a |
| Sample size | 8 | Explain how the study size was arrived at. | 5 |
| Missing data | 9 | Describe how missing data were handled (e.g., complete-case analysis, single imputation, multiple imputation) with details of any imputation method.  | 17 |
| Statistical analysis methods | 10a | Describe how predictors were handled in the analyses.  | 8 |
| 10b | Specify type of model, all model-building procedures (including any predictor selection), and method for internal validation. | 8 |
| 10d | Specify all measures used to assess model performance and, if relevant, to compare multiple models.  | 7 |
| Risk groups | 11 | Provide details on how risk groups were created, if done.  | 8,10 |
| **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.  | 6 |
| 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.  | 8 |
| Model development  | 14a | Specify the number of participants and outcome events in each analysis.  | 10,11 |
| 14b | If done, report the unadjusted association between each candidate predictor and outcome. | n/a |
| 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). | 10,11 |
| 15b | Explain how to the use the prediction model. | n/a |
| Model performance | 16 | Report performance measures (with CIs) for the prediction model. | n/a |
| **Discussion** |
| Limitations | 18 | Discuss any limitations of the study (such as nonrepresentative sample, few events per predictor, missing data).  | 13,14 |
| Interpretation | 19b | Give an overall interpretation of the results, considering objectives, limitations, and results from similar studies, and other relevant evidence.  | 11,12 |
| Implications | 20 | Discuss the potential clinical use of the model and implications for future research.  | 13,14 |
| **Other information** |
| Supplementary information | 21 | Provide information about the availability of supplementary resources, such as study protocol, Web calculator, and data sets.  | ESM |
| Funding | 22 | Give the source of funding and the role of the funders for the present study.  | 14 |

**Supplementary Table 2:** STROBE checklist

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| --- | --- | --- | --- |
|  | Item No | Recommendation | Page No |
| **Title and abstract** | 1 | (*a*) Indicate the study’s design with a commonly used term in the title or the abstract | 1 |
| (*b*) Provide in the abstract an informative and balanced summary of what was done and what was found |  |
| Introduction |
| Background/rationale | 2 | Explain the scientific background and rationale for the investigation being reported | 4 |
| Objectives | 3 | State specific objectives, including any prespecified hypotheses | 4,5 |
| Methods |
| Study design | 4 | Present key elements of study design early in the paper | 5 |
| Setting | 5 | Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection | 5,6 |
| Participants | 6 | (*a*) Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up | 5,6 |
| (*b*)For matched studies, give matching criteria and number of exposed and unexposed |  |
| Variables | 7 | Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable | 5,6 |
| Data sources/ measurement | 8\* | For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group | 7 |
| Bias | 9 | Describe any efforts to address potential sources of bias | n/a |
| Study size | 10 | Explain how the study size was arrived at | 5 |
| Quantitative variables | 11 | Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why | 8, 10 |
| Statistical methods | 12 | (*a*) Describe all statistical methods, including those used to control for confounding | 8,17 |
| (*b*) Describe any methods used to examine subgroups and interactions |  |
| (*c*) Explain how missing data were addressed |  |
| (*d*) If applicable, explain how loss to follow-up was addressed |  |
| (*e*) Describe any sensitivity analyses |  |
| Results |  |
| Participants | 13\* | (a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed | 5,6 |
| (b) Give reasons for non-participation at each stage |  |
| (c) Consider use of a flow diagram |  |
| Descriptive data | 14\* | (a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders | 8 |
| (b) Indicate number of participants with missing data for each variable of interest |  |
| (c) Summarise follow-up time (eg, average and total amount) |  |
| Outcome data | 15\* | Report numbers of outcome events or summary measures over time | 10,11 |

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| --- | --- | --- | --- |
| Main results | 16 | (*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included | 9-11 |
| (*b*) Report category boundaries when continuous variables were categorized |  |
| (*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period |  |
| Other analyses | 17 | Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses | n/a |
| Discussion |
| Key results | 18 | Summarise key results with reference to study objectives | 11 |
| Limitations | 19 | Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias | 13,14 |
| Interpretation | 20 | Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence | 11,12 |
| Generalisability | 21 | Discuss the generalisability (external validity) of the study results | 13,14 |
| Other information |
| Funding | 22 | Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based | 14 |