CO205

UPDATED EVIDENCE ON PROGNOSTIC MODELS FOR OUTCOME PREDICTION IN ADVANCED HEPATOCELLULAR CARCINOMA PATIENTS WITH LOCAL-REGIONAL AND/OR SYSTEMIC THERAPY: A SYSTEMATIC REVIEW AND CRITICAL APPRAISAL

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OBJECTIVES

- Immune checkpoint inhibitors (ICIs) have been approved for advanced hepatocellular carcinoma (HCC) treatment. However, there are few studies comparing different predictive models between ICIs and tyrosine kinase inhibitors (TKIs). This updated systematic review aims to describe and appraise the prognostic models developed to predict patients with HCC undergoing local-regional and/or systemic treatment.

METHODS

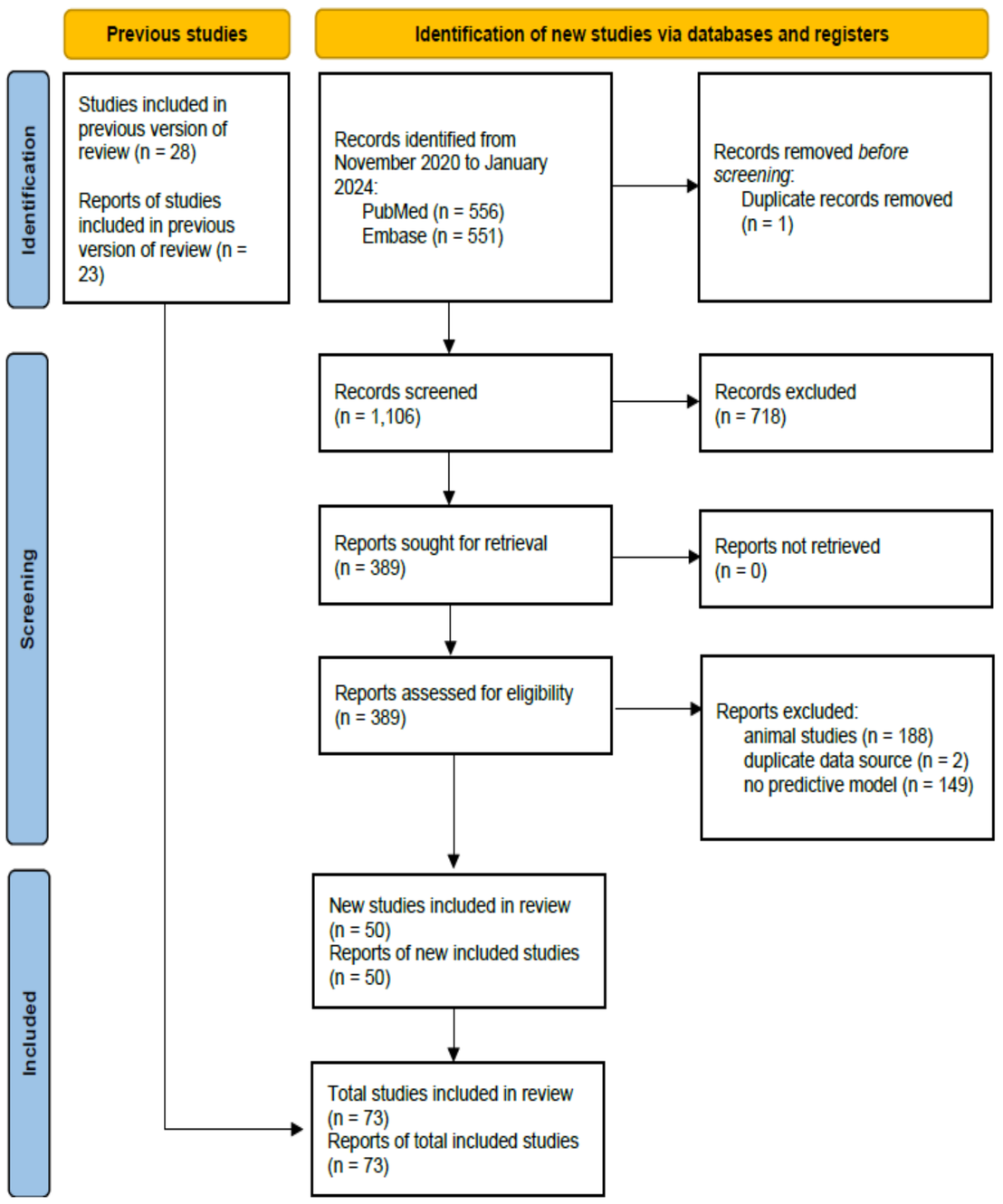
- We thoroughly searched Embase and PubMed databases for relevant randomized controlled trials (RCTs) and observational studies published up to January 2024. Studies that developed or validated a prognostic model for all clinical outcomes in HCC patients after local-regional and/or systemic treatment were included.
- We created the following search strategy:
  Key words: hepatocellular carcinoma (with automated syntax translation) AND first-line systemic treatment (e.g., sorafenib, lenvatinib, atezolizumab combined bevacizumab)
- We excluded diagnostic models and prognostic models developed for HCC patients receiving other treatments (liver resection, liver transplantation and etc.).

RESULTS

- After screening 2,292 studies, we included 50 prognostic models for predicting local-regional and/or systemic treatment.
- Among these models, no related model was developed for selection of ICIs or TKIs.
- Of the 50 prognostic models, 3 models consisted of radiomics features and clinical features (e.g., biochemical data and tumor burden), 6 models were developed based on genes, and other models were developed based on clinical features.
- Among the 50 prognostic models, the most common ICIs and TKIs treatments were atezolizumab plus bevacizumab (n=10) and sorafenib (n=33), respectively. The most prevalent endpoint was overall survival (n=57).
- The most used predictors were alpha- fetoprotein (n=35), albumin (n=17), extrahepatic metastasis (n=14), and tumor size (n=15).

Table 1. Characteristics of included studies

Figure 1. PRISMA flow chart of updated systematic review



CONCLUSIONS

- This study describes and analyzes the prognostic models developed for HCC patients with local-regional and/or systemic treatment. The results show that there is no specific predictive model in helping decision-making for selection of ICIs or TKIs. Future research should focus on these models in clinical practice.