Submission letter

Dear editors，

We are submitting a manuscript entitled “*Integrated Clinical and Genomic Assessment of Small Cell Bladder Carcinoma Using Population-Based and Mutational Data*” for your consideration for publication as an article in ***scientific reports***. The work described has not been submitted elsewhere for publication, in whole or in part, and all the authors listed have approved the manuscript that is enclosed.

Small cell carcinoma of the bladder (SCCB) is a rare and aggressive malignancy, with limited clinical evidence guiding diagnosis and management. Leveraging the comprehensive SEER database, we conducted a population-based retrospective study involving 552 SCCB patients and 48,859 transitional cell carcinoma (TCC) patients. We employed propensity score matching (PSM) to balance baseline characteristics and compared clinicopathologic features and survival outcomes between SCCB and TCC cohorts.

Furthermore, we explored the genomic mutational profile of SCCB by integrating data from the COSMIC database, revealing high-frequency mutations in TP53, RB1, and PCLO, which are closely associated with tumorigenesis. Based on identified independent prognostic factors (age, marital status, AJCC stage, chemotherapy, and surgery), we constructed overall survival (OS) and cancer-specific survival (CSS) nomograms using LASSO regression and Cox proportional hazards models, and validated their predictive performance using ROC curves, calibration curves, and decision curve analysis.

To the best of our knowledge, this is the first study to apply machine learning methods to develop and validate prognostic prediction tools specifically for SCCB patients. These findings offer valuable insights into the clinical management and individualized prognosis prediction of SCCB, a disease where evidence-based strategies are currently lacking.

We believe this manuscript aligns well with the scope of ***scientific reports***, especially in terms of combining population-level epidemiological analysis, genomic exploration, and artificial intelligence–based prognostic modeling in a rare but clinically significant cancer type.

This manuscript has not been published or submitted elsewhere, and all authors have approved the content. We have no conflicts of interest to declare.

Thank you for considering our manuscript on this topic.

Sincerely,

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