



P1.066: A Four-Protein Plasma Signature for Lung Cancer Risk Stratification in Individuals with COPD

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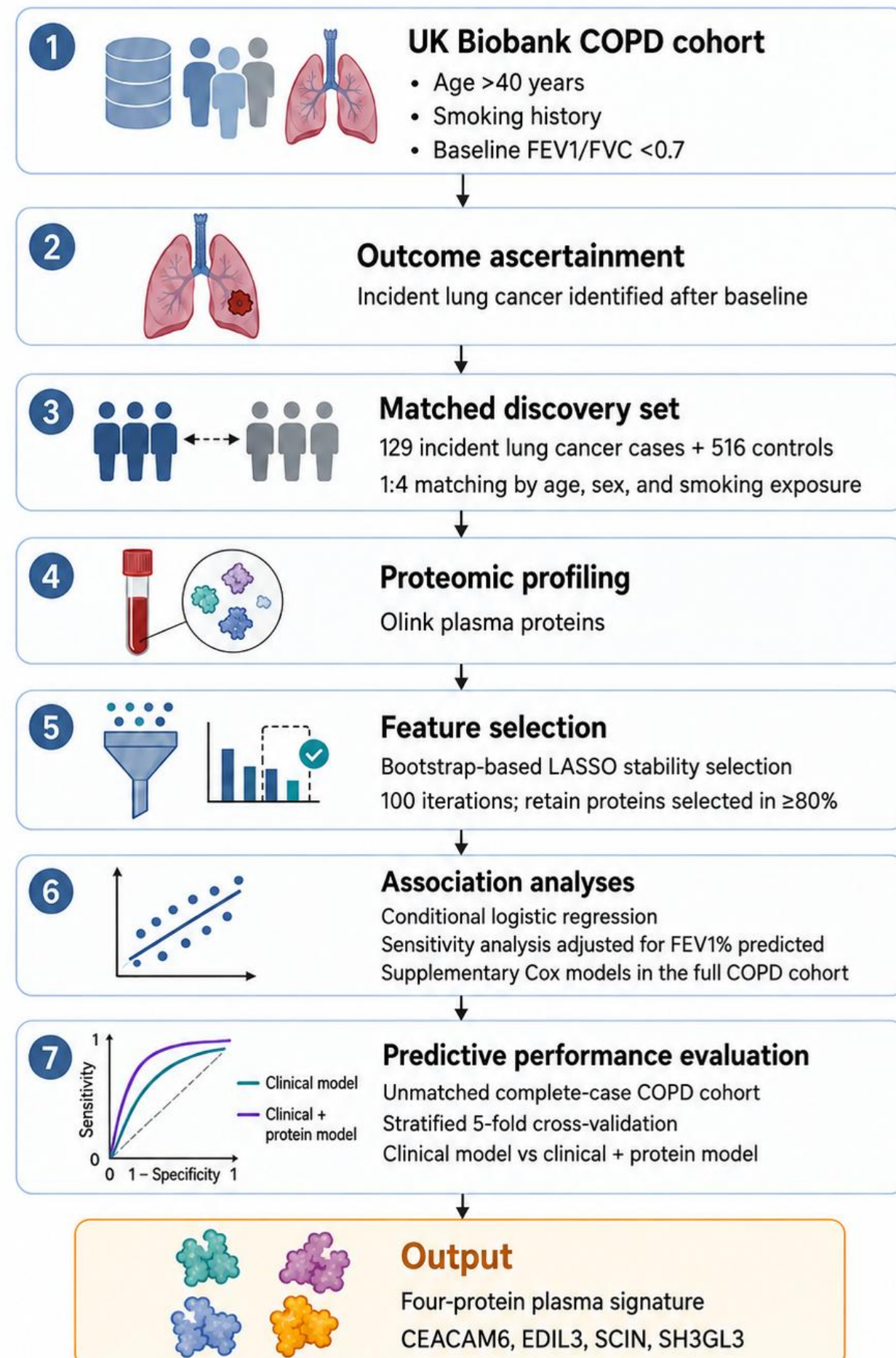
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INTRODUCTION

Individuals with chronic obstructive pulmonary disease (COPD) are at increased risk for lung cancer, but clinically useful tools for identifying those at highest risk remain limited. We investigated whether plasma proteomics could identify a reproducible biomarker panel for incident lung cancer risk stratification in COPD.

METHODS

Study Design and Analytical Workflow



DISCUSSION AND CONCLUSION

- A parsimonious four-protein plasma signature was consistently associated with incident lung cancer and improved risk discrimination beyond conventional clinical variables and lung function in patients with COPD.
- These findings support the potential utility of this signature for improving lung cancer risk assessment in this high-risk population.
- Prospective external validation is needed to determine its potential role in biomarker-guided lung cancer screening in COPD.

REFERENCES & ACKNOWLEDGEMENTS

REFERENCES

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Artificial Intelligence (AI) Use Disclosure
ChatGPT (OpenAI) was used to assist with language refinement of the poster text.

RESULTS

The matched analysis included 129 incident lung cancer cases and 516 controls. Stability selection identified a four-protein signature comprising CEACAM6, EDIL3, SCIN, and SH3GL3. CEACAM6 and EDIL3 were positively associated with incident lung cancer, whereas SCIN and SH3GL3 were inversely associated, with ORs of 1.94, 1.72, 0.73, and 0.75, respectively; corresponding HRs in full-cohort Cox models were 3.19, 3.13, 0.66, and 0.82. Associations remained significant after excluding events within 1 or 2 years of baseline. In the unmatched COPD cohort (n=1,524; 84 cases), higher predicted-risk quartiles showed progressive case enrichment. The combined model improved discrimination (AUC 0.785 vs 0.694; $P=6.38 \times 10^{-5}$) and reclassification (NRI 0.675; IDI 0.053), with greater net benefit across clinically relevant risk thresholds.

