

Concordance Between Liquid and Tissue NGS in Advanced NSCLC: A Real-World Study from a Mexican Cohort

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INTRODUCTION

Next-generation sequencing (NGS) is essential for identifying actionable genomic alterations in advanced non-small cell lung cancer (NSCLC). While tissue biopsy (TBx) remains the gold standard, liquid biopsy (LBx) offers a minimally invasive alternative. However, real-world concordance between these modalities and determinants of discordance remain incompletely defined.

METHODS

We conducted a retrospective cohort study of patients with histologically confirmed NSCLC who underwent paired NGS testing using TBx and LBx. Concordance was defined as detection of the same actionable driver alteration across both platforms. Discordance included alterations detected in only one modality or mismatched genomic profiles. McNemar's test was used to compare paired detection rates. Multivariable logistic regression analysis identified predictors of discordance, including age, sex, smoking status, stage, variant allele frequency (VAF), and sample adequacy.

DISCUSSION AND CONCLUSION

Actionable Take Away Message

- Liquid biopsies are becoming a reliable alternative to tissue with reduced risks.

Future Direction for Research

- There are many factors that can change the concordance rate between both sample types, this poses a major challenge since many of them can't be changed by our patients but there might be other tools to prepare the samples for better rates.

REFERENCES & ACKNOWLEDGEMENTS



Artificial Intelligence (AI) Use Disclaimer
No AI was used for the development of this study or the design of this e-poster.

RESULTS

Concordance was highest for common EGFR mutations (>80%). McNemar's test demonstrated no statistically significant difference in overall detection rates between TBx and LBx ($p=0.17$). On multivariable analysis, insufficient tissue (OR 4.2, $p=0.006$), low VAF (<1%) (OR 3.1, $p=0.02$) and presence of multiple genomic alterations (OR 2.4, $p=0.045$) were independently associated with discordance. Age, sex, and smoking status were not significant predictors.

FIG 1. CLINICAL STAGE

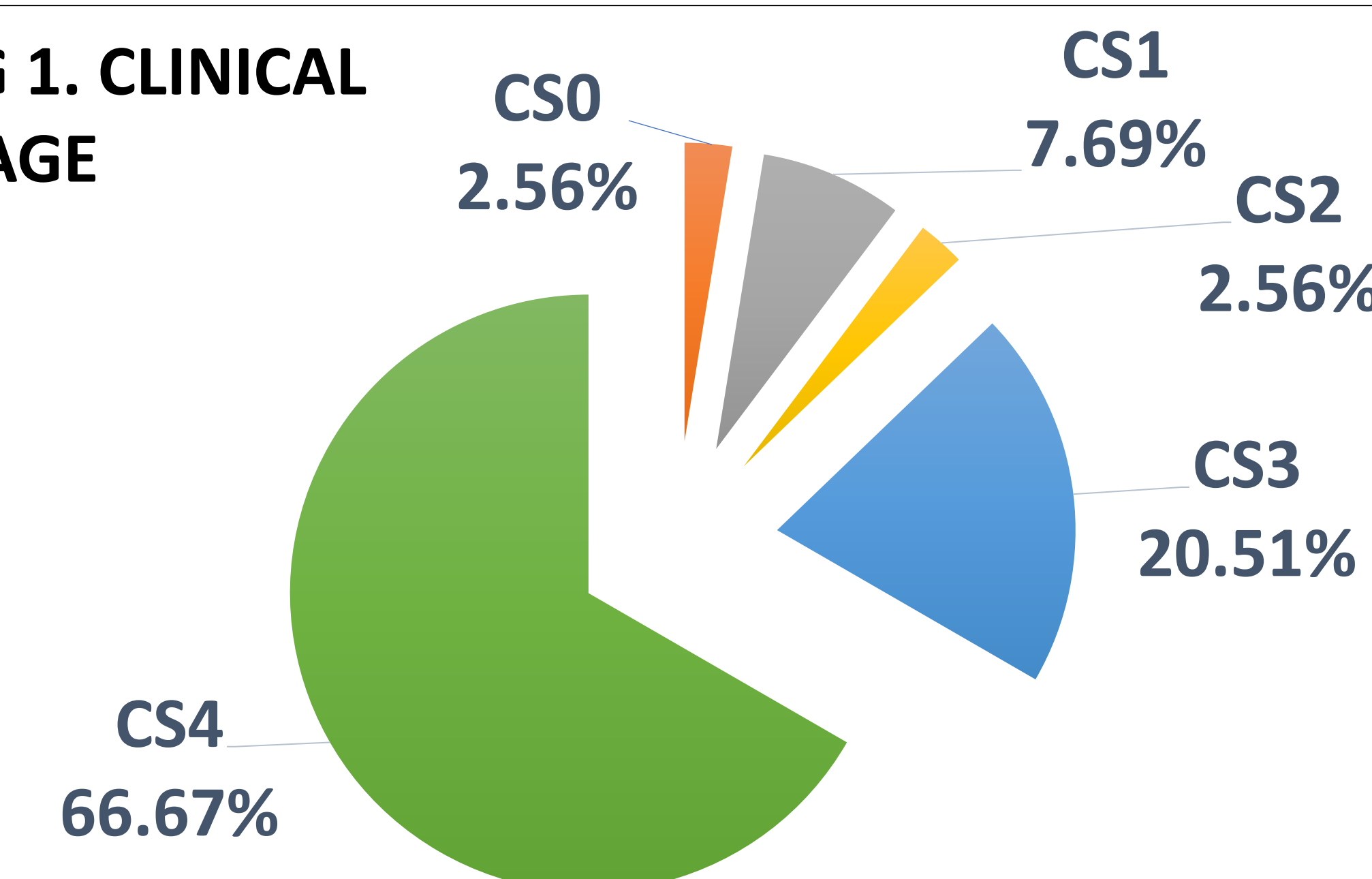


FIG 2. CONCORDANCE

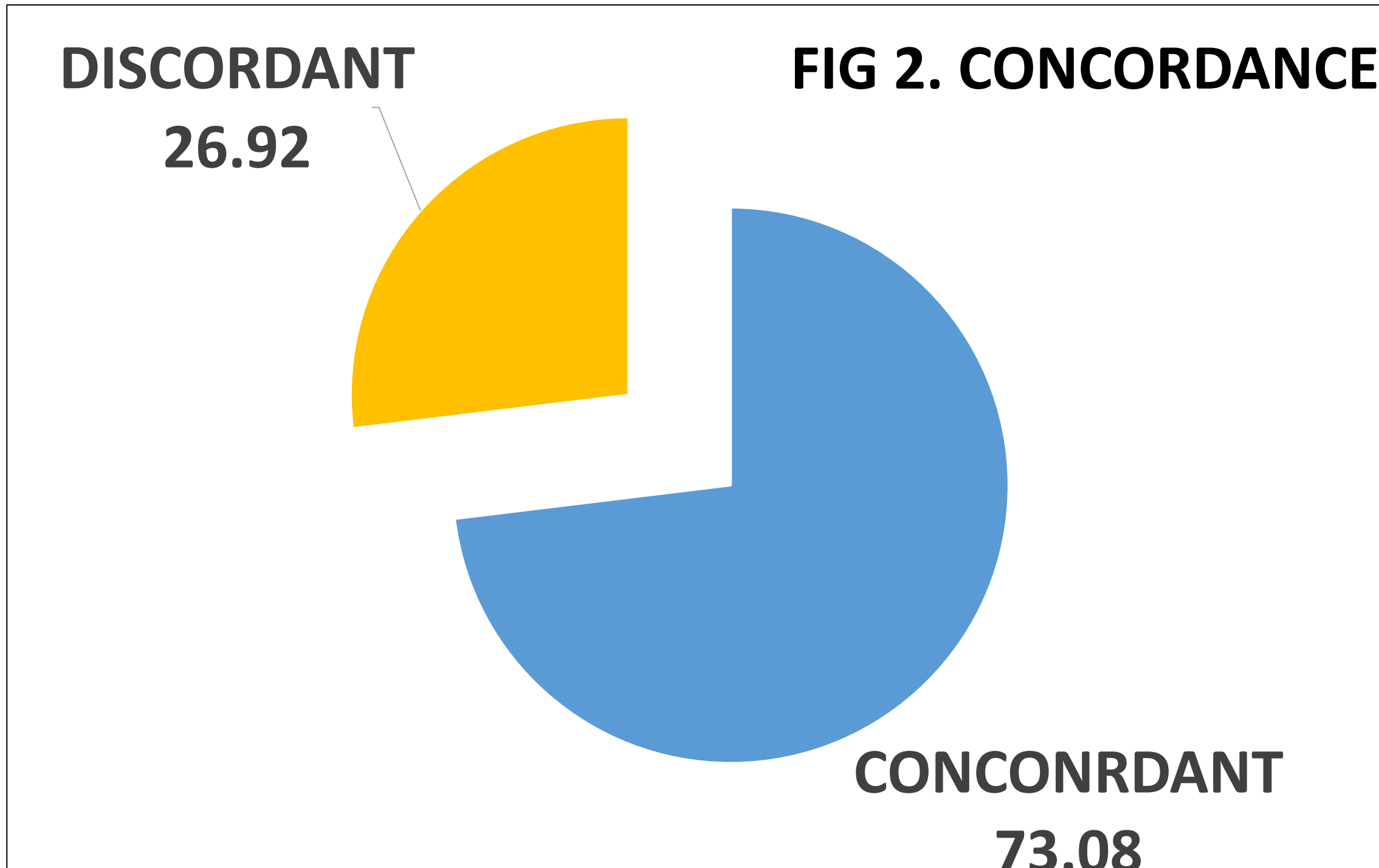


FIG 3. MUTATIONS BY SAMPLE

