Modified Frailty Index Associates with TORS Complications and Survival: A National Real-World Database Study

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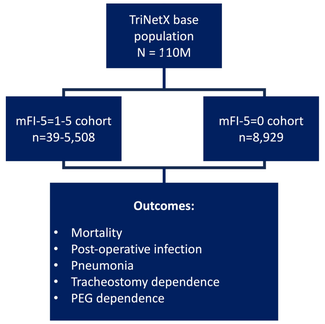
Introduction

- Retrospective study utilizing the TriNetX multi-centered US-collaborative health records network querying for TORS patients.
- While age has traditionally been used as a proxy for frailty, previous studies have highlighted the need for a more comprehensive measure to accurately predict surgical outcomes.
- The mFI-5's validity to predict transoral robotic surgery (TORS) outcomes has yet to be reported.

Methodology

- Cohorts were stratified by mFI-5 score which uses five ICD-10 codes: non-independent functional status, hypertension, obstructive respiratory disease, heart failure, and diabetes mellitus.
    - Cohorts were matched using propensity score matching (PSM) for age group at index (decade of life 40-89 years).
- Outcome measures included survival, post-operative infection, pneumonia, tracheostomy dependence, and PEG dependence.
- All odds-ratios reported were normalized to mFI-5 = 0.



Results

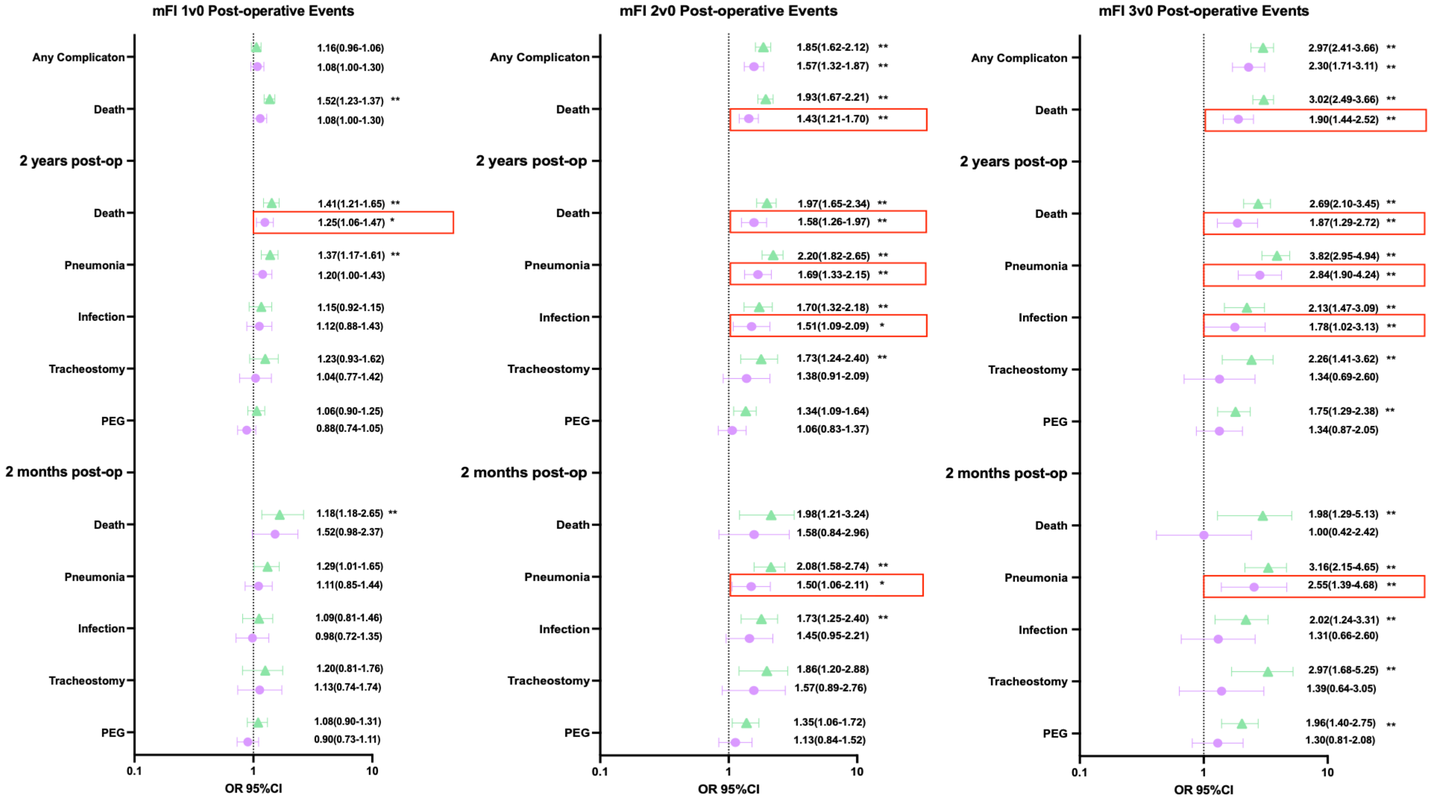


Figure 1. Frailty odds ratios normalized to mFI-5 = 0 for unmatched and matched data.

Results

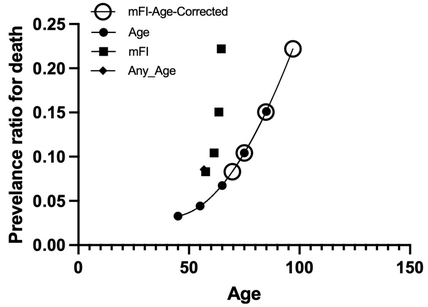


Figure 2. mFI-5 frailty vs. age as predictors of 5-year mortality

Conclusions

- Propensity-score matched data demonstrates that mFI-5 is significantly associated with mortality, pneumonia, and post-operative infection independently of age at different post-operative time-points.
- Using polynomial regression to model age versus incident 5-year post-TORS death (R^2=0.99), mFI-5 scores better predicted survival than age alone.
- This highlights the utility of mFI-5 for predicting TORS outcomes.

References

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