

MP04-01 – Longitudinal Subphenotypes of Urinary Symptoms in Type I Diabetes

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Background

- Lower urinary tract symptoms (LUTS) in men and urinary incontinence (UI) in women are dynamic conditions with numerous factors contributing to risk and progression.
- Diabetes is known to cause urinary symptoms
 - Natural history of diabetes leading to LUTS and UI is not well characterized.

Objectives

- Categorize trajectories of urinary symptoms (LUTS in men, UI in women) into clusters based on severity of symptoms
- Evaluate how well these trajectories can be predicted among persons with type 1 diabetes (T1DM)
- Describe factors influencing the long-term trajectory of LUTS in men and UI in women with T1DM

Setting

Longitudinal data from 565 men and 523 women in the UroEDIC ancillary study of urological complications
of the Epidemiology of Diabetes Interventions and Complications (EDIC) were used to define LUTS/UI
annually over 5 years.



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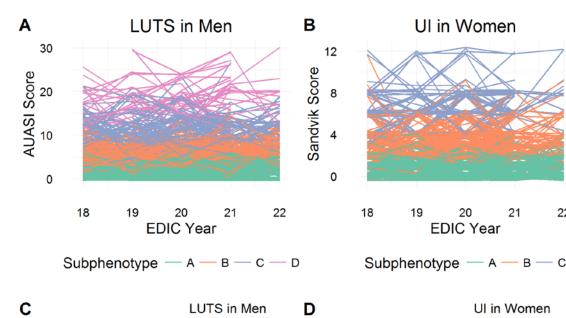
Permutation importance

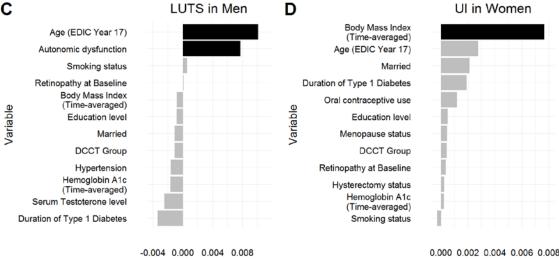
Results

- Identified 4 subphenotypes for LUTS in men and 3 subphenotypes for UI in women.
- The random forest model achieved a multiclass areaunder-the-curve (AUC) of 0.65 for AUASI and 0.61 for Sandvik using 10-fold cross-validation.
- Statistically significant predictors
 - age (p = 0.002) and autonomic dysfunction (p < 0.001) for LUTS in men
 - **BMI** (p = 0.02) for UI in women

Conclusions

 Model may help identify candidates for interventions targeting metabolic factors contributing to variation in symptoms.





Permutation importance