

## LOWER URINARY TRACT SYMPTOMS IN ADULTS TREATED FOR POSTERIOR URETHRAL VALVES IN CHILDHOOD: MATCHED COHORT STUDY

### Hypothesis / aims of study

To compare the prevalence and bother of lower urinary tract symptoms (LUTS) between adults treated for posterior urethral valves (PUV) in childhood and population-based controls.

### Study design, materials and methods

Questionnaires were mailed to PUV patients aged  $\geq 18$  treated at our institution. Out of 106 PUV patients, 68 (64.2%) participated; 18 were unavailable/excluded, and 38 did not participate. Age- and sex-matched controls were randomly identified from a population-based study (response proportion 62.4%). Danish Prostatic Symptom Score was used for the assessment of occurrence (scale for most: never-rarely-often-always) and bother (scale: none-small-moderate-major) of 12 different LUTS. Chi-square test was used for the analyses stratified by PUV patient/control status, with the four-point ordinal scale as the outcome.

### Results

The median age of both the 68 PUV patients and the 272 controls (ratio 1:4) was 38.5 years (range 18-57). Overall,  $\geq 1$  moderate or severe LUTS was reported by 32.4% of PUV patients and 15.8% of controls ( $p=0.002$ ) (Figures 1A and 2A). Mild hesitancy, weak stream, incomplete emptying and straining were reported twice more commonly by PUV patients than controls ( $p<0.05$ ) (Figure 1A). Prevalence of any urgency incontinence (14.7% vs 4.8%;  $p=0.014$ ) and any stress incontinence (11.8% vs 3.0%,  $p=0.005$ ) was at least 3-fold in PUV patients (Figure 2A). Furthermore, prevalence of bother from most LUTS was approximately 2-fold in PUV patients compared to controls ( $p<0.05$ ) (Figures 1B and 2B). However, most PUV patients and controls reported no or small bother (Figures 1B and 2B).

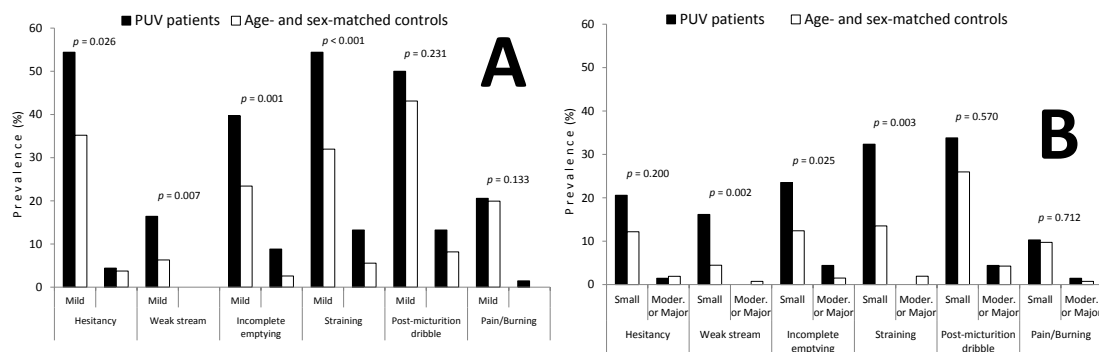
### Interpretation of results

We compared the prevalence and bother of 12 different LUTS between adults treated for PUV in childhood with population-based age- and sex-matched controls. At least one moderately or more severe LUTS was reported by one in three PUV patients and one in six controls. Moderate or major bother from at least one LUTS was reported by one in seven PUV patients and one in eleven controls. Overall, the occurrence and bother of most LUTS was approximately 2-fold in PUV patients compared to controls. This may be due to symptoms persisting from childhood or development of new symptoms during later life. However, in this cohort of young and middle-aged men, most symptoms were not severe or very bothersome. One explanation may be that PUV patients acquiesce, and in adulthood, most of them do not report substantial bother as they are less likely to develop LUTS as new conditions with increasing age. However, these cross-sectional data cannot prove this.

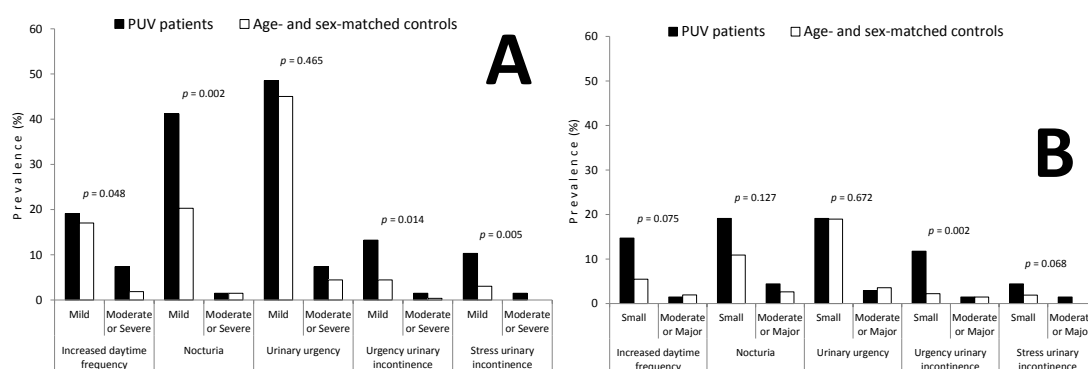
### Concluding message

In adulthood, occurrence and bother of most LUTS are approximately 2-fold in PUV patients compared to general population. However, in this cohort of young and middle-aged men, most symptoms are mild.

**Figure 1.** Occurrence (A) and bother (B) of voiding symptoms, post-micturition dribble and pain/burning among PUV patients and controls. P values calculated for the trend of symptom occurrence severity between PUV patients and controls.



**Figure 2.** Occurrence (A) and bother (B) of storage symptoms among PUV patients and controls. P values calculated for the trend of symptom occurrence severity between PUV patients and controls.



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<b>Is this a clinical trial?</b>	No
<b>What were the subjects in the study?</b>	HUMAN
<b>Was this study approved by an ethics committee?</b>	Yes
<b>Specify Name of Ethics Committee</b>	Helsinki University Central Hospital Institutional Review Board
<b>Was the Declaration of Helsinki followed?</b>	Yes
<b>Was informed consent obtained from the patients?</b>	Yes