

Patients with recurrent UTI are at increased risk of UTI following urodynamic studies

A positive pre-UDS urine culture did not independently predict infection, supporting an individualized rather than routine prophylaxis strategy.

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Post-Urodynamic Urinary Tract Infection in Neurogenic Patients Using Intermittent Catheterization: A Prospective Cohort Study

Prospective cohort | NLUTD patients using clean intermittent catheterization

OBJECTIVE

To evaluate the incidence and predictors of symptomatic UTI after urodynamic studies (UDS) performed without antibiotic prophylaxis.

METHODS

PATIENTS

Consecutive adults with NLUTD on CIC undergoing UDS for clinical indication

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BEFORE UDS

Clinical/demographic data + urinalysis and urine culture

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URODYNAMIC STUDY

Performed according to ICS good urodynamic practices; no antibiotic prophylaxis

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FOLLOW-UP

Structured telephone interview 14 days after UDS

SYMPTOMATIC UTI DEFINITION

Change in urinary tract behavior / lower urinary tract symptoms that prompted an urgent-care visit and, after physician assessment, resulted in antibiotic treatment.

COHORT CHARACTERISTICS (n = 151)	
Age, years - median (IQR)	41 (31-50)
Male sex, n (%)	91 (60.3)
Recurrent UTI, n (%)	31 (20.5)
Positive pre-UDS urine culture, n (%)	135 (89.4)

NEUROLOGIC ETIOLOGY

Spinal cord injury	78 (51.7%)
Multiple sclerosis	28 (18.5%)
Myelomeningocele	18 (11.9%)
Other neurologic etiologies	27 (17.9%)

Ethics approval: CAPPesq; CAAE 84640124.6.0000.0068; Opinion No. 7,301,900.

Selected references: Ginsberg et al. AUA/SUFU NLUTD Guideline (2021); Rosier et al. ICS Good Urodynamic Practices (2017); Arnaud et al. French Journal of Urology (2024).

RESULTS

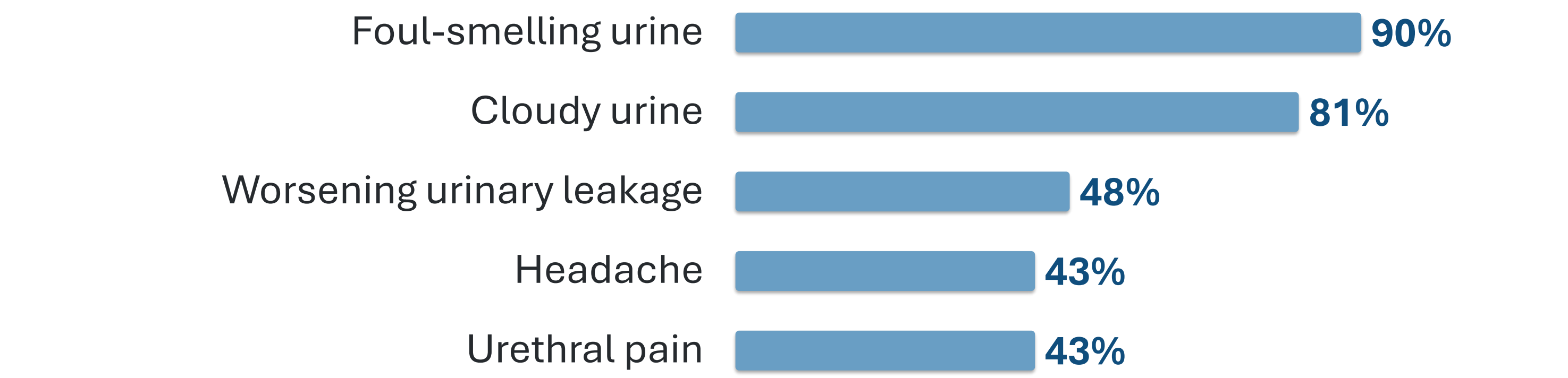
SYMPTOMATIC UTI AFTER UDS

13.9%

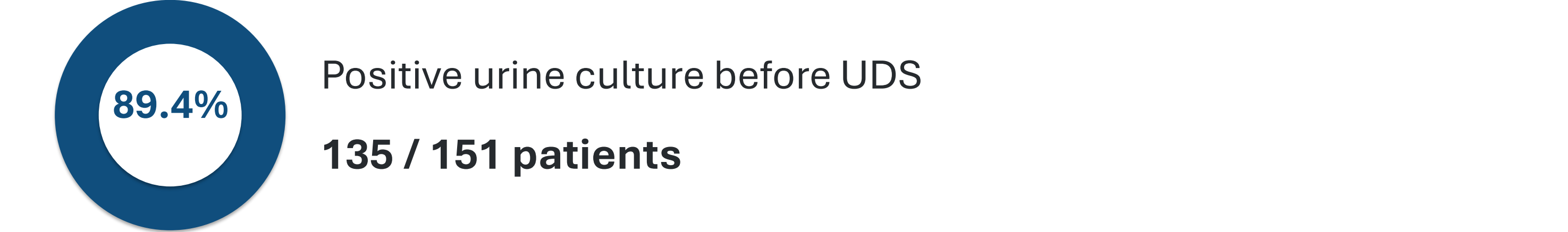
21 / 151 patients

Median symptom onset: 5 days (IQR 3-7)

CLINICAL PRESENTATION AMONG UTI CASES (n = 21)



PRE-UDS URINE CULTURE



MULTIVARIABLE ANALYSIS: PREDICTORS OF POST-UDS UTI

Variable	Adjusted OR (95% CI)	p
Recurrent UTI	3.27 (1.05-10.19)	0.041
Positive pre-UDS urine culture	1.82 (0.84-3.94)	0.13
Leukocyturia	1.54 (0.71-3.34)	0.27
UTI in previous 6 months	1.63 (0.77-3.47)	0.20
Fecal incontinence	1.48 (0.70-3.14)	0.30
Constipation	1.21 (0.56-2.63)	0.62
Diaper use	1.37 (0.63-2.98)	0.43
Diabetes mellitus	1.18 (0.49-2.87)	0.71
High storage pressures on UDS	1.26 (0.59-2.71)	0.55

TAKE-HOME MESSAGE

Despite 89.4% pre-UDS culture positivity, recurrent UTI - not bacteriuria - independently predicted symptomatic post-UDS infection.