

# Perioperative Outcomes of Ureterorenoscopy in Patients with Neurogenic Bladder and Renal Malformation

## Background

Patients with neurogenic bladder (NB) or renal malformations often require ureterorenoscopy (URS), but outcome data are scarce. We aimed to compare postoperative complications with non-neurogenic/non-malformation patients and to assess risk factors, urine cultures, and stone composition in these special populations.

## Methods

- Retrospective cohort of URS patients at a tertiary center
- Groups: renal malformation (n=23), neurogenic bladder (n=30), controls (n=297)
- Data: demographics, perioperative details, urine cultures, stone composition, complications
- Analyses: chi-square and Kruskal–Wallis tests

## Results

Characteristic	Renal malformation (N=23)	Neurogenic bladder (N=30)	Control (N= 297)	p Values
<b>Demographic</b>				
Median age – yr (IQR)	67.0 (20-86)	68.5 (29-86)	54.0 (11-96)	<0.001
Sex, male – no (%)	12 (52.2)	27 (90.0)	205 (69.0)	0.01
Sex, female – no (%)	11 (47.8)	3 (10.0)	92 (31.0)	-
Median BMI – kg/m <sup>2</sup> (IQR)	24.9 (18-36)	25.5 (18-62)	27.1 (16-52)	0.064
ASA score ≥3 – no (%)	8 (34.8)	23 (76.7)	58 (19.5)	<0.001
Median Creatinine - mmol/l (IQR)	95 (50-364)	84 (34-183)	86 (39-348)	0.938
<b>Intervention Details</b>				
Positive urine culture – no (%)	12 (52.2)	17 (56.7)	34 (11.5)	<0.001
<b>Indications for URS</b>				
Urolithiasis – no (%)	21 (91.3)	28 (93.3)	274 (92.3)	0.353
Urogenital cancer – no (%)	2 (8.7)	2 (6.7)	23 (7.7)	-
JJ stent in situ – no (%)	14 (60.9)	27 (90.0)	248 (83.5)	0.012
Median JJ dwell time – day (IQR)	28.0 (8-65)	36.0 (6-133)	32.0 (2-365)	0.591
Median operative time – min (IQR)	48.0 (9-113)	52.0 (6-83)	43.0 (7-138)	0.789
<b>Infectious complication</b>				
Infectious complication – no (%)	7 (30.4)	10 (33.3)	12 (4.0)	<0.001

Figure 1: Comparison of Demographic, Perioperative, and Infectious Outcomes Among Patients with Renal Malformations, Neurogenic Bladder, and Controls Undergoing URS

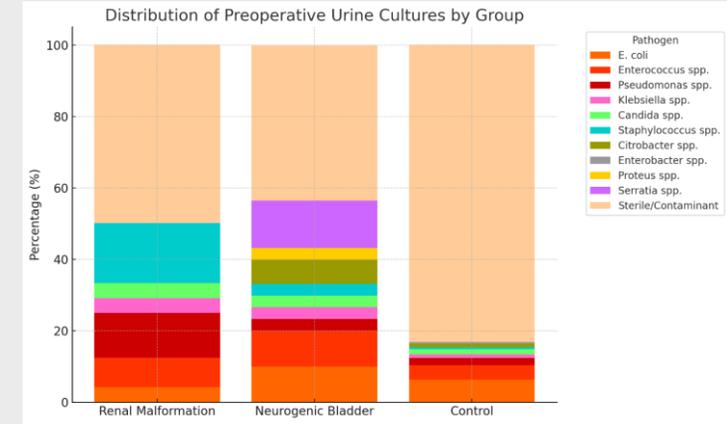


Figure 2: Distribution of Preoperative Urine Cultures by Group

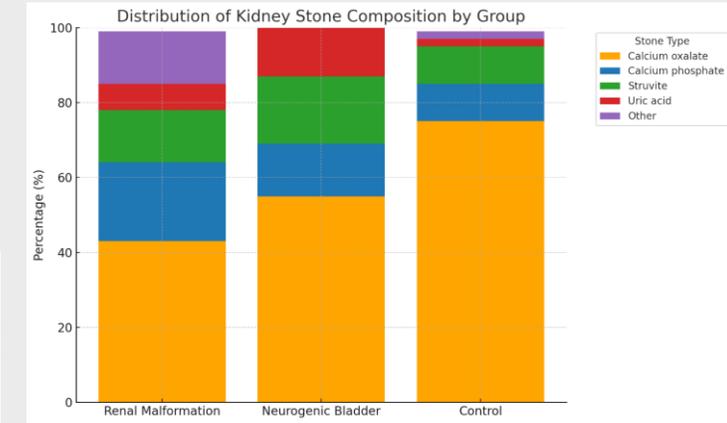


Figure 3: Distribution of Kidney Stone Composition by Group

## Conclusion

Patients with renal malformations or neurogenic bladder have higher rates of postoperative infections after URS, likely due to preoperative urinary colonization and anatomical/functional abnormalities. Tailored perioperative care, including targeted antibiotics, is recommended.

Breu B. 1, Ortolini M. 1, Grilo N. 1, Stritt K. 1

1. University Hospital CHUV, Lausanne, Switzerland