

What is the prevalence of lower urinary tract symptoms (LUTS) among candidate patients for lithotripsy



Is there a correlation between the location of urolithiasis and LUTS?



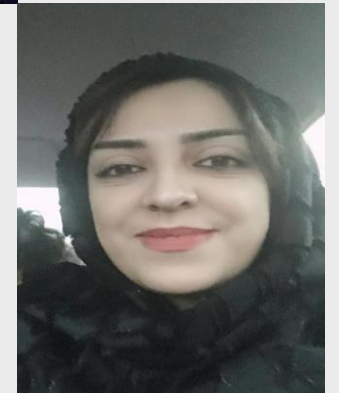
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Hypothesis / aims of study

Patients with urolithiasis, including renal and ureteral stones, experience lower urinary tract symptoms (LUTS), especially in patients with stones in the distal ureter.

We aimed to determine the correlation between LUTS and urolithiasis location and size in patients experiencing renal colic.

Study design, materials, and methods

We conducted a cross-sectional study on patients with urolithiasis referring to the electroshock wave lithotripsy (ESWL) ward.

Inclusion criteria

patients over 18 age

sterile urine sample

completion of an **ICIQ-FLUTS**, and/ or **ICIQ-MLUTS** questionnaire, and sonography or CT-scan.

Exclusion criteria

Patients with recent hospitalization (3 months)

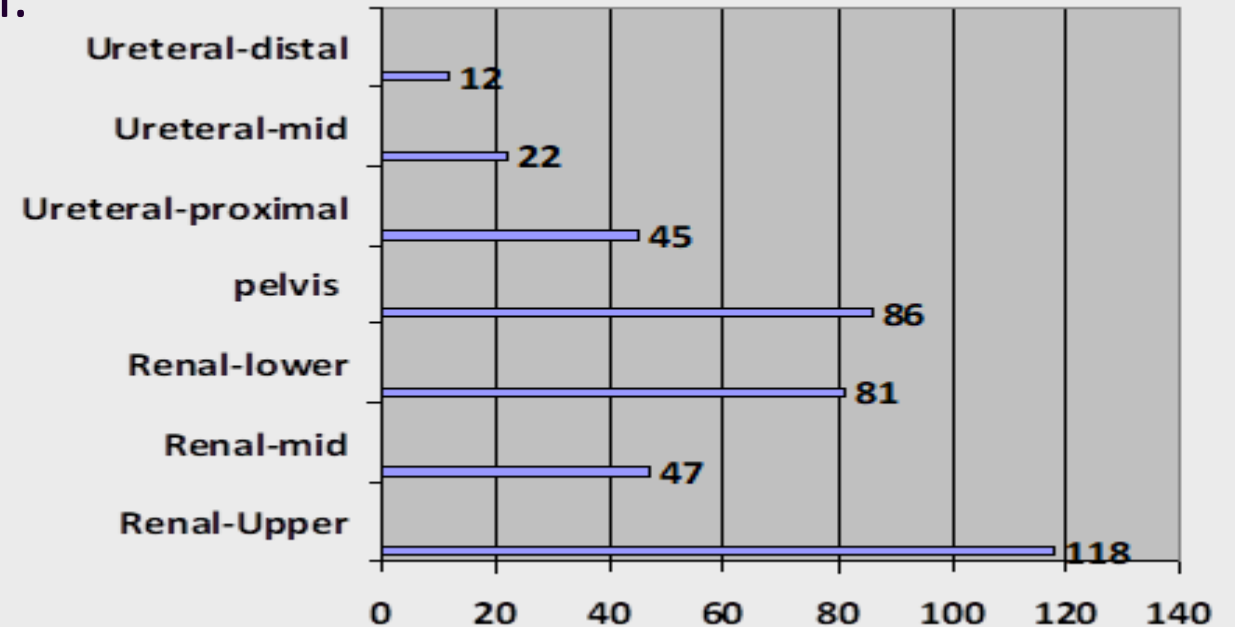
urinary catheter or urinary tract infections at the time of LUTS questionnaire completion

Results

Among 308 cases referred for lithotripsy, 194 (63.0%) were male and 114 (37.0%) were female.

Of these, 30 cases (9.7 %) had DJ stents, 21.6 % were smoker and 7.8 % had history of diabetic mellitus.

Just 8 cases(2.5%) had history of UTI.



The prevalence of LUTS

Frequency		N (%)	Enuresis		N (%)
Urgency	No	180 (58.4)	Straining	Never	262 (85.1)
	Mild	97 (31.5)		Occasionally	21 (6.8)
	Moderate	20 (6.5)		Sometimes	14 (4.5)
	Sever	11 (3.6)		Most of the time	7 (2.3)
Pain				All of the time	4 (1.3)
	Never	195 (63.8)	Intermittency	Never	215 (69.8)
	Occasionally	48 (15.6)		Occasionally	48 (15.6)
	Sometimes	47 (15.3)		Sometimes	37 (12.0)
	Most of the time	11 (3.6)		Most of the time	7 (2.3)
All of the time	7 (2.3)	All of the time		1 (0.3)	
Nocturia	Never	227 (73.7)	Weak stream	Never	217 (70.5)
	Occasionally	58 (18.8)		Occasionally	34 (11.0)
	Sometimes	14 (4.5)		Sometimes	43 (14.0)
	Most of the time	7 (2.3)		Most of the time	12 (3.9)
	All of the time	2 (0.6)		All of the time	2 (0.6)
Dysuria	None	179 (58.1)	Incomplete emptying	Not at all	260 (84.4)
	One	70 (22.7)		Mild	26 (8.4)
	Two	46 (14.9)		Moderate	17 (5.5)
	Three	6 (1.9)		Severe	5 (1.6)
	Four or more	7 (2.3)		Never	230 (74.7)
			Occasionally	42 (13.6)	
			Sometimes	28 (9.1)	
			Most of the time	8 (2.6)	
			All of the time	0 (0.0)	



- In 39 cases out of 79 individuals who had [ureteral stones](#), **49.4% did not report any urgency**, while in the 12 patients (15.2%), this symptom occurs sometimes.
- In [renal stones](#), the frequency was common in the upper pole (55.6%), Urgency in the mid pole (38.3%) , weak stream in the lower pole (16%).



The prevalence of LUTS based on the location of urolithiasis

Symptoms	Ureteric stone location			p-value*
	Proximal	Mid	Distal	
Urgency				
Occasionally	5 (11.1)	7 (31.8)	0 (0.0)	0.004
Sometimes	12 (26.7)	3 (13.6)	3 (25.0)	
Most of the time	3 (6.7)	2 (9.1)	2 (16.7)	
All of the time	1 (2.2)	1 (4.5)	1 (8.3)	
Dysuria				
Occasionally	8 (17.8)	3 (13.6)	3 (25.0)	0.002
Sometimes	7 (15.6)	3 (13.6)	1 (8.3)	
Most of the time	1 (2.2)	6 (27.3)	3 (25.0)	
All of the time	2 (4.4)	1 (4.5)	0 (0.0)	
Straining				
Occasionally	8 (17.8)	1 (4.5)	2 (16.7)	0.014
Sometimes	6 (13.3)	5 (22.7)	3 (25.0)	
Most of the time	1 (2.2)	1 (4.5)	2 (16.7)	
All of the time	1 (2.2)	0 (0.0)	0 (0.0)	
Enuresis				
Occasionally	5 (11.1)	1 (4.5)	1 (8.3)	0.039
Sometimes	2 (4.4)	1 (4.5)	1 (8.3)	
Most of the time	0 (0.0)	2 (9.1)	1 (8.3)	
All of the time	2 (4.4)	0 (0.0)	1 (8.3)	
Intermittency				
Occasionally	4 (8.9)	4 (18.2)	1 (8.3)	0.041
Sometimes	11 (24.4)	3 (13.6)	3 (25.0)	
Most of the time	3 (6.7)	0 (0.0)	2 (16.7)	
All of the time	0 (0.0)	1 (4.5)	0 (0.0)	
Weak stream				
Mild	6 (13.3)	2 (9.1)	2 (16.7)	0.016
Moderate	3 (6.7)	1 (4.5)	3 (25.0)	
Severe	3 (6.7)	0 (0.0)	0 (0.0)	
Mild				
Incomplete emptying				
Occasionally	6 (13.3)	1 (4.5)	3 (25.0)	0.039
Sometimes	4 (8.9)	3 (25.0)	2 (16.7)	
Most of the time	2 (4.4)	1 (4.5)	2 (16.7)	



Interpretation of results

- Although most of the cases with urethral stones had no LUTS, there was a significant association between the location of the urethral stone and urinary urgency, dysuria, straining, enuresis, intermittency, weak stream, and incomplete emptying.
- There was no correlation between the renal stone's location or the width or height of all urinary tract stones and LUTS.
- However, it will not be easy to judge the study's outcomes regarding the small sample size, and further studies with a large sample size are recommended.



