



Introduction

Complicated urolithiasis is the main indication for ureteral catheter. There is a paucity of information about infectious complications, especially in the context of multidrug-resistant bacteria (MDR) in the field of urinary tract infections (UTI).

Objective

Study infectious complications after ureteral stent insertion for urolithiasis.

Methods

Multicenter prospective cohort study in five French clinics. All adult patients who needed a retrograde ureteral stent insertion for a complicated urolithiasis were included. There were no exclusion criteria. Inclusion period was 4 months for the 5 clinics successively. The patients were followed-up until the JJ catheter was removed.

¹ SPILF, Recommandations de Bonne Pratique, Infections Urinaires Associées aux Soins 2015, http://www.infectiologie.com/UserFiles/File/medias/Recos/2015-RPC-infections_urinaires_associees_aux_soins.pdf

	Total N = 223 (%)	Center 1 N = 89	Center 2 N = 38	Center 3 N = 33	Center 4 N = 15	Center 5 N = 48
Retrograde JJ-stent insertion						
Urine culture performed	187 (84)	86 (97)	31 (82)	22 (67)	12 (80)	36 (75)
Positive urine culture	36 (19)	14 (16)	4 (13)	8 (36)	2 (17)	8 (22)
Antibiotic prophylaxis	74 (33)	0	26 (68)	23 (70)	0	25 (52)
Curative antibiotic therapy	56 (25)	19 (21)	6 (16)	6 (18)	3 (20)	23 (48)
No antibiotic treatment	93 (42)	70 (79)	6 (16)	4 (12)	12 (80)	0
Infectious events						
UTI post JJ	13 (6.3)	5 (5.7)	3 (11)	1 (3)	1 (6.7)	3 (6.8)
Hospitalization	10 (77)	4 (80)	1 (33)	1 (100)	1 (100)	3 (100)
Intensive care unit	2 (15)	0	1 (33)	0	0	1 (33)
Favorable evolution	13 (100)	5 (100)	3 (100)	1 (100)	1 (100)	3 (100)
JJ-stent removal						
Urine culture performed	90 (43)	11 (12)	15 (54)	28 (85)	4 (27)	32 (70)
Positive urine culture	15 (17)	2 (18)	0	12 (43)	0	1 (3,1)
Antibiotic when removal	59 (28)	3 (3.4)	19 (68)	26 (79)	0	11 (24)
Lost to follow-up	15 (6.7)	1 (1.1)	10 (26)	0	0	4 (8.3)

Table 1. Retrograde ureteral stent insertion and follow-up

Conclusion

The UTI rate after JJ-stent insertion for urolithiasis was **6.3%**. Among bacteria involved, *Enterococcus* and antibiotic-resistant *Enterobacteriaceae* were isolated in 4/13 patients (31%). This leads us to call to mind the use of **Piperacillin-Tazobactam** for the empirical treatment of HCAI UTI, as is it recommended in France by the French Society of Infectious Disease¹. We also highlight **heterogeneous care** for patients benefiting of JJ stent insertion for urolithiasis, notably concerning antimicrobial prophylaxis during the retrograde insertion.

Results

Mean age: 57 ± 16 years old

Sex ratio H/F: 1.7

Charlson comorbidity score: 1 ± 1.2

No statistical difference between the centers

Urine culture before the stent insertion: isolated bacteria were mostly *Enterobacteriaceae* (n = 17, 47%): *E. coli* (33%), *P. mirabilis* (8%), *Enterobacter spp.* (6%) and *E. faecalis* (3%).

Infectious events: 4 of the 13 patients (31%) had a positive urine culture at the time of the JJ-catheter insertion. These 4 patients received an antimicrobial therapy during the retrograde stent insertion. Ten patients (8.1%) who did not receive an antibiotic prophylaxis had an UTI versus 3 (3.5%) of those who had received a prophylaxis (p = 0.12). The bacteria responsible of the UTI were *E. coli* (n = 3, 23%) one of them were ESBL secreting, *E. aerogenes* hyperCase, *K. pneumoniae* et two strains of *E. faecalis* which were amoxicillin-susceptible.