

Table 2. Clinical summary of complicated UTI cases treated with NM441

Case no.	Age Sex	Diagnosis underlying condition	Catheter (Route)	UTI group	Treatment		Symptoms*	Pyuria*	Bacteriuria*			Evaluation**		Side effects
					dose (mg×/day)	duration (days)			species	count (CFU/ml)	MIC (μg/ml)	UTI	Dr.	
1	58 M	CCC BPH	—	G-2	200×2	5	— —	+ —	<i>S. epidermidis</i> —	10 ⁴ 0	—	excellent	fair	—
2	73 F	CCC urethral tumor	—	G-4	200×2	5	+ —	++ —	<i>E. coli</i> —	10 ⁶ 0	—	excellent	excellent	—
3	68 M	CCC hydronephrosis BPH	—	G-4	300×2	5	— —	+ —	<i>E. coli</i> —	10 ⁶ 0	≤0.025	excellent	excellent	—
4	68 F	CCC urethral caruncle	—	G-4	200×2	5	— —	+ —	<i>S. agalactiae</i> —	10 ⁵ 0	0.39	excellent	excellent	—
5	72 M	CCC bladder tumor	—	G-4	200×2	5	++ +	++ ±	<i>E. faecium</i> —	10 ⁴ 0	3.13	moderate	good	—
6	72 M	CCC BPH	—	G-4	200×2	5	— —	± —	<i>S. epidermidis</i> —	10 ⁷ 0	0.10	moderate	good	—
7	57 M	CCC BPH	—	/	400×2	4	+ —	+ —	<i>E. faecalis</i> —	<10 ³ 0	0.78	/	good	—
8	60 M	CCC BPH	—	/	200×2	5	++ —	+ —	— —	0 0	—	/	good	—
9	58 M	CCC BPH	—	/	200×2	7	— —	+ —	— —	<10 ³ 0	—	/	good	—
10	75 F	CCC neurogenic bladder	—	/	200×2	5	— —	+ not done	<i>Enterococcus</i> sp. not done	10 ⁴ —	—	/	unknown	—
11	19 F	CCP vesicoureteral reflux	—	/	200×2	5	— —	+ —	<i>S. agalactiae</i> <i>Candida</i> sp.	10 ³ 10 ⁵	0.20	/	good	—

CCC: chronic complicated cystitis

CCP: chronic complicated pyelonephritis

BPH: benign prostatic hypertrophy

* before treatment
after treatment** UTI: criteria proposed by the Japanese UTI Committee
Dr.: Doctor's evaluation

例は5日後判定日に来院せず、「判定不能」となった。

単純性尿路感染症6例中UTI薬効評価基準に合致したものは5例あり、「著効」3例、「有効」1例、「無効」1例であった (Table 3)。

複雑性尿路感染症11例中UTI薬効評価基準に合致した症例は6例あり、「著効」4例、「有効」2例であった (Table 4)。また、複雑性尿路感染症の群別効果はTable 5に示す通りである。

UTI薬効評価基準に合致した単純性尿路感染症における細菌学的効果は3菌種5株が認められ、*Escherichia coli* 3株、*Klebsiella pneumoniae* 1株と *Salmonella* sp. 1株が起炎菌であり、これらは全株消失した。投与後出現菌は *Enterococcus* sp. と *Candida* sp. 各1株であった。UTI薬効評価基準に合致した複雑性尿路感染症における細菌学的効果をTable 6に示した。*Staphylococcus epidermidis* 2株、*Streptococcus agalactiae* 1株、*Enterococcus faecium* 1株、*E. coli* 2株の4菌種6株が認められ、全株消失した。なお、投与前菌数不足であった症

例で投与後 *Candida* sp. 1株が確認された。

Table 7に精巣上体炎の2例を示す。主治医判定によれば「有効」1例、「やや有効」1例であった。

淋菌性尿道炎の1例はUTI判定、主治医判定がともに「著効」であった。

自他覚的副作用ならびに臨床検査値異常は全例に認められなかった。

今回のNM441の総合臨床効果は、単純性尿路感染症においてUTI薬効評価基準で5例中4例、主治医判定では6例中4例が「有効」以上であった。また、複雑性尿路感染症においては、UTI薬効評価基準で6例中6例、主治医判定で10例中9例が「有効」以上であった。

細菌学的効果では、単純性尿路感染症、複雑性尿路感染症ともにすべての起炎菌の消失が認められた。

以上の結果より、本薬剤は尿路性器感染症に対して有用な薬剤と思われる。また、重篤な副作用、臨床検査値異常も認められず、安全性も高いと考えられた。

Table 3. Overall clinical efficacy of NM441 in acute uncomplicated UTI

Symptoms		Resolved			Improved			Persisted			Effect on bacteriuria
Pyuria		Cleared	Decreased	Unchanged	Cleared	Decreased	Unchanged	Cleared	Decreased	Unchanged	
Bacteriuria	Eliminated	3									3
	Decreased (Replaced)			1			1				2
	Unchanged										0
Effect on pain on micturition		4			1			0			Patient total
Effect on pyuria		3			0			2			
<input type="checkbox"/> Excellent					3						Overall efficacy rate 4/5
<input type="checkbox"/> Moderate					1						
<input type="checkbox"/> Poor (including failure)					1						

Bacteriological response

Total no. of strains	Eradicated	Persisted*
5	5	0

*Regardless of bacterial count

Table 4. Overall clinical efficacy of NM441 in complicated UTI

Pyuria		Cleared	Decreased	Unchanged	Effect on bacteriuria
Bacteriuria					
Eliminated		4	1	1	6
Decreased					
Replaced					
Unchanged					
Effect on pyuria		4	1	1	Patient total 6
<input type="checkbox"/> Excellent		4		Overall efficacy rate 6/6	
<input type="checkbox"/> Moderate		2			
<input type="checkbox"/> Poor (including failure)		0			

Bacteriological response

Total no. of strains	Eradicated	Persisted*
6	6	0

*Regardless of bacterial count

Table 5. Overall clinical efficacy of NM441 classified by the type of infection

Group		No. of cases	Excellent	Moderate	Poor	Overall efficacy rate
Monomicrobial infection	group 1 (indwelling catheter)					
	group 2 (post-prostatectomy)	1	1			1/1
	group 3 (upper UTI)					
	group 4 (lower UTI)	5	3	2		5/5
	sub-total	6	4	2	0	6/6
Polymicrobial infection	group 5 (indwelling catheter)					
	group 6 (no indwelling catheter)					
	sub-total					
Total		6	4	2	0	6/6

Table 6. Bacteriological response to NM441 in complicated UTI

Isolates	No. of strains	Eradicated	Persisted*
<i>Staphylococcus epidermidis</i>	2	2	
<i>Streptococcus agalactiae</i>	1	1	
<i>Enterococcus faecium</i>	1	1	
<i>Escherichia coli</i>	2	2	
Total	6	6	

*Regardless of bacterial count

Epididymitis

Table 7. Clinical summary treated with NM441

Case no.	Age	Type	Treatment		Observation day	Fever	Symptoms on testis			Bacteriuria*	Clinical efficacy	Abnormal values or side effects
			dose (mg × /day)	duration (days)			swelling	pain	tenderness	species		
1	53	Acute	200 × 2	5	0 5	ND ND	+	+	+	<i>E. coli</i> not done	fair	—
2	24	Acute	200 × 2	14	0 7 14	— — —	++ +	— — —	ND ND ND	— — —	good	—

Urethritis

Case no.	Age	Diagnosis	Treatment		Observation day	Symptoms	Pyuria	Bacteriuria*	Evaluation**		Side effects
			dose (mg × /day)	duration (days)				species	UTI	Dr.	
1	26	GU	200 × 2	3	0 4	+	+	<i>N. gonorrhoeae</i> —	excellent	excellent	—

GU: gonococcal urethritis
ND: not done+ before treatment
— after treatment** UTI: criteria proposed by the Japanese UTI Committee
Dr.: Doctor's evaluation

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Clinical studies on NM441 in the field of urology

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NM441 was administered orally to treat genitourinary tract infection to investigate its clinical efficacy and safety.

1) In 5 cases of acute uncomplicated cystitis, the result were excellent in 3, moderate in 1 and poor in 1 case.

2) In 6 cases of chronic complicated urinary tract infections, the result were excellent in 4 and moderate in 2 cases.

3) In 2 cases of acute epididymitis, the result were moderate in one case and fair in another case. In 1 case of gonococcal urethritis, the result was excellent.

4) Bacteriologically, *Staphylococcus epidermidis*, *Streptococcus agalactiae*, *Enterococcus faecium*, *Escherichia coli*, *Klebsiella pneumoniae* and *Salmonella* sp. were eradicated.

5) No side effect was observed. And no abnormality was observed in the clinical laboratory values.

We conclude that NM441 is a useful drug in the treatment of genitourinary tract infection.