尿路感染症に対する AM-715 の臨床的検討

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新しく開発された合成抗菌剤 AM-715 の、尿路感染症に対する有用性を評価する目的で臨床 的 検 討を行ない以下のような結論を得た。

- 1) 急性単純性膀胱炎30例,複雑性尿路感染症30例の外来患者に本剤を各々300 mg/日で3日間,600 mg/日で5日間投与して効果の判定を行なった。総合臨床効果は各々100%,81.8%であった。
 - 2) 細菌学的効果では55株中50株 (90.9%) に消失が見られた。
- 3) 副作用は自, 他覚的ともに認められなかった。臨床検査値の異常例は BUN が軽度上昇 した 1 例のみであった。

緒 言

杏林製薬㈱中央研究所で開発された AM-715 は 新 しいキノリンカルボン酸系の合成抗菌剤で、 6 位にフッ素、7 位にピペラジン環を有する特異な構造を も つ (Fig. 1)。

われわれは本剤を尿路感染症に使用し、その有用性について検討するとともに、尿中分離菌に対する本剤、 PPA および NA の disc 感受性ならびに MIC を比較検 討したので報告する。

Fig. 1 Chemical structure of AM-715

I. 急性単純性膀胱炎

対象および方法

対象症例は外来急性単純性膀胱炎30例で、脱落となった2例を除き残り28例について検討した。年齢は22~72歳、平均44.9歳であった。 投与方法は原則として本剤300 mgを1日3回に分けて3日間内服とした(Table 1)。なお、Case No. 25 は投与日数が4日であるが効果検討

に加えた。

臨床成績

効果判定は UTI 薬効評価基準第 2 版¹⁾に準拠して行なった。28例中,排尿痛は全例消失し,膿尿については28例中正常化26例 (92.9%),改善2 例 (7.1%) であった。細菌尿については28例中陰性化26 例 (92.9%),減少2 例 (7.1%) であった。以上より総合臨床効果は著効24 例,有効4 例で有効率は100% であった (Table 2)。

細菌学的効果

主な分離起炎菌に対する細菌学的効果は, E. coli 23株中21株 (91.3%) が消失し, また P. aeruginosa 1株を含め残りの全株消失を認めた (Table 3)。 なお, 投与後出現菌は Table 4 に示す 2株のみである。

副作用

本剤の投与に際し、特記すべき自他覚的副作用は認め られなかった。

II. 複雑性尿路感染症

対象および方法

対象症例は外来複雑性尿路感染症30例で、脱落となった8例を除き残り22例について検討した。年齢は24~80歳,平均44.6歳であった。投与方法は原則として本剤600mgを1日3回に分けて5日間内服とした(Table 5)。なお、Case No. 17および19は各々、投与日数が4日と6日であるが効果検討に加えた。

Table 1 Clinical summary of simple UTI cases treated with AM-715 (1)

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* Before treatment ** Inoculum size 10° cells/ml

Table 1 Clinical summary of simple UTI cases treated with AM-715 (2)

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* Before treatment ** Inoculum size 10* cells/ml

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Bacteriuria	Decreased (Replaced)	2									2 (7.1%)
,	Unchanged										
Efficacy on urination	pain on	28	3 (10	0 %)							Case total
Efficacy on	pyuria	26	5 (9:	2.9%)	2	? ('	7. 1%)				28
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Table 2 Overall clinical efficacy of AM-715 in acute simple cystitis

Table 3 Bacteriological response to AM-715 in acute simple cystitis

Isolates	No. of strains	Eradicated (%)	Persisted
S. aureus	1	1 (100%)	
S. faecalis	1	1 (100%)	
E. coli	23	21 (91.3%)	2
P. mirabilis	2	2 (100%)	
P. vulgaris	1	1 (100%)	
P. aeruginosa	1	1 (100%)	
Total	29	27 (93.1%)	2

Table 4 Strains appearing after AM-715 treatment in acute simple cystitis

Isolates	No. of strains	(%)
K. pneumoniae	1	(50%)
P. mirabilis	1	(50%)
Total	2	(100%)

臨床成績

効果判定はUTI 薬効評価基準第2版¹⁾に従って行なった。22例中膿尿は正常化12例(54.6%), 改善3例(13.6%), 不変7例(31.8%)であった。細菌尿は22例中陰性化16例(72.7%), 菌交代3例(13.6%), 不変3例(13.6%)であった。以上より総合臨床効果は,著効10例,有効8

例,無効4例で有効率は81.8%であった(Table 6)。また,疾患病態群別に検討すると,第1群は3例中2例,第3群は5例中5例に有効,第4群は11例中8例に著効,1例に有効で,単独感染症全体としては19例中16例(84.2%)が有効以上であった。また,第5群は2例中1例,第6群は1例中1例に著効で,少数ながら混合感染症全体としては3例中2例(66.7%)が著効であった。さらに,カテーテル非留置症例では17例中15例(88.2%)が有効以上であったが,カテーテル留置症例でも5例中3例(60%)が有効以上であった(Table 7)。

細菌学的効果

主な分離起炎菌に対する細菌学的効果は, S. faecalis 4株は全株消失し, E. coli 4株中3株, P. aeruginosa 5株中4株に消失を認めた (Table 8)。投与後出現菌については Table 9に示す如く4株であった。

副作用

脱落症例 8 例を加えた30例について副作用を検討した。本剤の投与に際し特記すべき自他覚的副作用は認められなかった。本剤投与前後に臨床血液検査を施行したが,血液像では異常を認めず, BUN では Case No. 14に軽度上昇 (18→24) を認めた。本症例はその後,右単腎症および右腎結石にて,腎切石術後 BUN が63となり人工透析を施行し,術後 25 日目に BUN 18 と正常に復した (Table 10)。

Ⅲ. 抗菌力

投与前尿中分離菌に対する本剤、PPA、NAのMICを 杏林製薬㈱中央研究所で測定した。また、比較的分離頻

Table 2 Chess

Table 5 Clinical summary of complicated UTI cases treated with AM-715 (1)

	Side		1						1		1		1						1	_	1			1		1
	Clinical effect		Excellent		Poor	100	Fyrellent	TWO THE PARTY OF T	Excellent		Excellent		Excellent		Moderate	Modelan	Poor		Excellent		Fyzellent		•	roor	Fypellene	TYPETIET
vity*	MIC**	AM-715	25		0.78	81.0			1.56		6.25		0.05 3.13		0.39			20			0.02		0.39		0.02	0.1
Sensitivity*	Disk	NA PPA	‡		#	_	#		_		-		‡ ‡		#		ι	ı	≢		1		#		#	L
S	Ω	NA			1	_	#		-		I		#		_		1	1	#		≢		1		#	111
		Count	108	ı	10,	10,	10\$	1	10،	-	10,	-	101	1	10,	ł	103	10,	10,	1	10.	1	10,	10,	10,	01 X0
Bacteriuria*		Species	P. pseudomollei S. faecalis	1	P. aeruginosa	P. aeruginosa	K. pneumoniae	1	P. aeruginosa	l	S. faecalis	1	E. coli P. putida	1	P. aeruginosa	1	S. faecalis	Serratia sp.	K. pneumoniae		E. coli	1	E. coli	E. coli	P. mirabilis	V nacimonina
	Pyuria*		‡	1	+	41	+	1	#	1	‡	ı	#	ı	#	‡	‡	+	‡	ı	‡	1	+	+	‡	
	Treatment Pyuria*	uose (iiig v day)	3 4009	2000	3 2007	5 7000	3 × 00 9	C Y000	\$ XUU9	200	\$ 4009	5	600x5		3 >007	C Y000	\$ 700.5	C V900	\$ 2009	CVOO	\$ 000	200		600×5	37007	60043
		group	4.5	3	3	3	70	5	4.7	5	7	5	4	·)	,	5	- 5	5	7	5	7 0	5		3	,	<u> </u>
	Indwelling	Cameter						ļ					1		+	-	+	-		ı		l		t		1
Diagnosis	ease	Service du Circonio	Chronic cystitis	в.Р.Н.	Chronic cystitis	Bladder cancer	Chronic cystitis	Bladder cancer	Chronic cystitis	Neurogenic bladder	Chronic cystitis	Bladder neck sclerosis	Chronic cystitis	B.P.H.	Chronic cystitis	Metastatic bladder cancer	Chronic cystitis	Neurogenic bladder	Chronic cystitis	Neurogenic bladder	Chronic cystitis	Neurogenic bladder	Chronic cystitis	Irradiation therapy	Chronic cystitis	
	Sex		11 >	\$:	E	t	4	Ĺ	4	>	Ĕ	>	\$:	Z.	F	ц	[]	E	ı	4		Ħ		×
	No. Age Sex	,	3	2	8	7/	9	Š	7.7	5	3	S	5	3	1	0	8	39	;	7	:	?		67		82
	No.		-	٦	1	7	,	ç	•	+	1	n	4	•	1	``	"	×	1	7	!	10		11	'	12

*Before treatment **Inoculum size 10° cells/ml

Table 5 Clinical summary of complicated UTI cases treated with AM-715 (2)

	Side	effect		1	丨	l 	↓_	1	1			1			_	l 	_	I	↓	1		ı
	Clinical	errect		Excellent		Moderate	Moderate	Modelate	Excellent		Woden	Moderate	Poor		Vedente	Modelate	Mediate	Moderate	Medicate	Moderate	Madamta	moderate
vity*	MIC**	AM-715	1.56		3.13	20	0.39		0.05 0.05		0.78		6.25	1	3.13		6.25		3.13			
Sensitivity*	Disk	NA PPA	+	L	+	1	#		##				+=	1	ı		+	ı	#		#	
62	L	_	#		1	1	1		##		1	_	11	1	1		1	1	1		#	L
		Count	10,	,	10,	103	103	ı	104	1	10\$	1	10,	10,	107	ı	10.	103	107	ı	107	۱
Bacteriuria*	-1	Species	Acinetobacter	1	P. morganii	Pseudomonas sp.	P. aeruginosa	1	P. morganii P. vulgaris	1	S. epidermidis	1	Serratia sp. P. aeruginosa	Serratia sp.	S. faecalis	1	Serratia sp.	Proteus sp.	P. putida	ı	E. coli	. 1
	Pyuria*		+	ı	‡	١	‡	+	#	ı	#	+	+	≢	#	‡	#	1	‡	+	#	+
F	Treatment	dose (mg × day)	35000	6000	3 000 9		\$ X009		600×4		\$ 2009	C V 000	5 X009		9009	2000	6000 5	C Y 900	6000	5000	\$ < 009	5 7000
1			3	ţ		5	Ã		સુ		5.3	5	5-5)	6.3	5	5	3	,	5	7-3	3
Tadaman	Indwelling U. I. I.	Cauleter group			1	-	1		+			l	+	-	1				ı		ı	
Diagnosis	T. F. T.	Underlying disease	Chronic cystitis	Urethral stricture	Chronic cystitis	Urethral stricture	Chronic cystitis	В.Р.Н.	Chronic cystitis	В.Р.Н.	Chronic pyelonephritis	Rt. renal stone	Chronic pyelonephritis	Bladder cancer	Chronic pyelonephritis	Rt. ureteral stone	Chronic pyelonephritis	Rt. renal stone	Chronic pyelonephritis	Bilat. renal stone	Chronic pyelonephritis	Lt. ureteral stone
	Sex		>	1	≥	1	×		M		Ţ	•	≥		Ţ	-	Ţ		≥		ū	
	No. Age Sex		5	2	72		62		80		63	3	99		67	_	40		77	:	3.1	
	Š		12	3	1		15		16		17	•	2	2	10	17	20	1	7	1	2	17

* After treatment

** Inoculum size 10° cells/ml

Table 6	Overall	clinical	efficacy	of	AM-715
	in c	omplica	ted UTI		

Pyuria Bacteriuria	Cleared	Decreased	Unchanged	Efficacy on bacteriuria
Eliminated	10	3	3	16 (72.7%)
Decreased				
Replaced	2		1	3 (13.6%)
Unchanged			3	3 (13.6%)
Efficacy on pyuria	12(54.6%)	3(13.6%)	7(31.8%)	Case total 22
Excellent	10 / 22	(45.5%)	Overall effec	tiveness rate
Moderate	8		18 / 22	(81.8%)
Poor(or Failed)	4			

Table 7 Overall clinical efficacy of AM-715 classified by type of infection

	Group	No. of cases			ent ₎ otal	Excellent	Moderate	Poor	Overall effectiveness rate
	1st group (Catheter indwelt)	3	(13	.796)		2	1	6.6.7%
Single	2nd group (Post prostatectomy)								
infection	3rd group (Upper U.T.I.)	5	(22	.7%)		5		100 %
miection	4th group (Lower U.T.I.)	11	(50	.0%)	8	1	2	8 1.8 %
	Sub total	19	(86	.4%)	8	8	3	8 4.2%
Missa 4	5th group (Catheter indwelt)	2	(9	. 1%)	1		1	50 %
Mixed	6th group (No catheter indwelt)	1	(4	.5%)	1			100 %
infection	Sub total	3	(13	.6%)	2		1	6 6.7 %
	Total	22	(100	95)	10	8	4	81.8%

Fig. 2 Correlogram of AM-715 and PPA

E. coli 29 strains

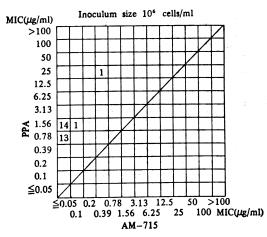


Fig. 3 Correlogram of AM-715 and PPA

P. aeruginosa 6 strains

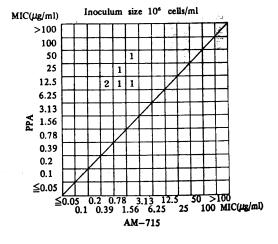


Table 8	Bacteriological	response	to	AM-715
	in complica	ated UTI		

Isolates	No. of strains	Eradicated (%)	Persisted
S. epidermidis	1	1 (100%)	
S. faecalis	4	4 (100%)	
E. coli	4	3 (75%)	1
K. pneumoniae	2	2 (100%)	
P. mirabilis	1	1 (100%)	
P. vulgaris	1	1 (100%)	
P. morganii	2	2 (100%)	
Serratia sp.	2	1 (50%)	1
Acinetobacter	1	1 (100%)	
P. aeruginosa	5	4 (80%)	1
P. putida	2	2 (100%)	
P. pseudomollei	1	1 (100%)	
Total	26	23 (88%)	3

Table 9 Strains* appearing after AM-715 treatment in complicated U.T.I.

Isolates	No. of strains	(%)
K. pneumoniae	1	(25%)
Proteus sp.	1	(25%)
Serratia sp.	1	(25%)
Pseudomonas sp.	1	(25%)
Total	4	(100%)

*: regardless of bacterial count

度の高かった E. coli, P. aeruginosa については、本剤と PPA に対する感受性相関を検討した。

投与前分離しえた $E.\ coli\ 29$ 株に対する本剤の MIC は $10^8\ cells/ml$, $10^6\ cells/ml$ 接種共, $0.05\ \mu g/ml$ に peak を認めた。 $P.\ aeruginosa\ 6$ 株は $10^6\ cells/ml$ 接種では $0.78\sim6.25\ \mu g/ml$ に分布し、 $10^6\ cells/ml$ 接種では $0.39\sim1.56\ \mu g/ml$ に分布した (Table 11, 12)。

10⁶ cells/ml 接種時における本剤と PPA との感受性相関では, E. coli 29株, P. aeruginosa 6株の全株 について4~5 管本剤が優れていた (Fig. 2, 3)。

また、投与前尿中分離菌株に対する本剤の MIC と細菌学的効果との関係を Table 13 に示すが、 急性 単純性膀胱炎症例の分離菌に対する MIC は27株中24株が 0.05 μg/ml であり、24株中23株が消失した。複雑性尿路感染症例の分離菌に対する MIC は 0.05~25 μg/ml に幅

広い分布を示すが、MIC の大小にかかわらず概ね 良 好な除菌効果が見られた (Table 14)。

考 案

AM-715 は杏林製薬㈱中央研究所で開発された新しいキノリンカルボン酸系の合成抗菌剤で、6位にフッ案、7位にピペラジン環を有する特異な構造をもち、その特徴として、1) グラム陰性桿菌のみならず、グラム陽性菌にも従来の NA 系薬剤に比して一段と強い抗菌力を示すこと、2) 緑膿菌に対する抗菌力は同系薬剤の中では最も強いこと、3) 一部の NA 耐性菌に対しても抗菌力を示すこと、4) 経口投与により吸収され、血中濃度および尿中排泄率は従来の同系薬剤よりやや劣るが、生体内ではほとんど代謝を受けずにそのままの形で排泄されること²⁾などが挙げられる。

今回のわれわれの検討では、急性単純性膀胱炎28例中28例 (100%),複雑性尿路感染症にも22 例中18 例 (81.8%) に有効であり、単純性尿路感染症はむろんのこと複雑性尿路感染症にも本剤は非常に有用であると言える。

細菌学的効果は、急性単純性膀胱炎症例で29株中27株、複雑性尿路感染症例で26株中23株が消失し、合計55株中50株(90.9%)が除菌された。菌種別に見ると、 *E. coli* 27株中25株(92.6%)、*Proteus* 属7株中7株(100%)、*P. aeruginosa* 6株中5株(83%)、*S. faecalis* 5株中5株(100%)に消失をみた。

次に、投与前尿中分離菌の NA 耐性株(1 濃度感受性ディスク法において(-) or (+)を示したもの) は合計20株あり、それらに対する本剤の細菌学的効果をみると20株中17株(85%) に消失を認め、NA 耐性株に対する本剤の有効性が判明した。 さらに、PPA 耐性株19株中18株(95%) に消失を認め、PPA 耐性株に対しても本剤の有効性が認められた。

今回の検討では本剤によるものと判定できる自他覚的 副作用は認められなかった。また、臨床検査値の異常は BUN の軽度上昇1例、を認めたのみで比較的副作用は 少なかった。

本剤は、他のキノリンカルボン酸系抗菌剤に比べ比較的少量の投与であるにもかかわらず、グラム陽性球菌、P. aeruginosa およびその他の NA、PPA 耐性株による 尿路感染症にも臨床効果が充分期待し得るものと考えられる。

結 語

新合成抗菌剤である AM-715 について臨床的検 討 を 行ない,次のような結果を得た。

1. 外来患者60名 (急性単純性膀胱炎30名,慢性複雜

Table 10 Laboratory findings before and after AM-715 administration

P	V	2.0	5.0	2.0	3.2	1.8	1.5		1.6	5.0	1.7	2.3	2.0	1.2	1.4	1.5		2.5	1.4	1.6	2.0	8.2	1.6		2.5	1.2		1.9	1.9	3.0	9.3
AFP Bessey-	В	1.6	2.3	2.2		1.8	1.3		2.0	2.1	2.0	2.0	2.2	1.4	1.3	1.6	2.1	5.6	1.0	1.8	5.0	2.7	1.6	1.0	5.6	1.4	9.7	8.1	1.7	2.4	
T.	A	37	6	11	ន	19	19		22	16	8	ន	14	4	ន	22		10	∞	श्च	6	8	21		8	8		9	12	14	202
GPT (u.)	В	24	14	16		ន	ผ		25	46	8	23	14	11	53	ន	10	ន	က	31	10	33	14	13	17	9	8	9	10	15	1
GOT (u.)	Α	27	21	21	35	21	19		32	42	33	8	12	8	40	32		15	19	ผ	22	32	18		31	14		18	8	ន	132
83	В	21	23	22		ន	24		43	19	R	88	81	23	47	ន	8	27	15	8	82	38	21	ន	য়	1:1	53	15	19	22	
Creatinine (mg/dl)	A	1.36	1.17	1.30	1.00	1.07	1.00		0.95	0.99	0.84	1.02	1.04	1.67	1.27	1.45		1.09			1.67	1.40	1.10		1.17	1.00	1.05	1.23	1.19	1.05	2.80
Creat (mg	В		1.53			1.31		1.10	1.07	1.03				1.72	1.17		96.0	1.03	1.06	1.05		1.60	0.83	1.39	1.27	1.04	0.87	1.20	1.40	1.25	
BUN (mg/dl)	Α	19	15	11	11	17	11		16	80	14	17	21	19	22	24		17	ន	19	22	8	∞		18	01		15	9	15	83
Dag (mg	æ	19	18			18	14	17	19	∞	32	17	ន	18	18	31	15	12	8	18	52	ន	11	o	22	16	18	17	15	12	
Platelets (X 10 ⁴ /mm ³)	Α	32.3	35.7	27.3	21.1	22.3	38.1		31.2		24.1			23.2	24.1	24.1		41.4	17.7	15.1	18.8	21.8	38.0		26.3	88.0		24.5	39.8		28.2
Plat (×104	В	25.2	34.8	22.0		20.7	19.2		42.8		23.7			20.5	9.62	30.4	26.7	33.5	16.1	17.1	16.7	20.9	9.83	36.3		18.9	17.4	25.4	16.0		-1
WBC /mm³)	A	8800	5300	7000	4300	2300	0009		8000	4300	3500	4400	2100	6700	5200	7300		8000	4700	0099	3800	7500	5500		7800	5100	5800	2800	8900	7900	10600
M U	В	10400	5700	7300		6100	4800		10800	2200	5400	4500	6100	1900	2000	8200	5100	6300	4800	8800	4500	7800	0009	4200		8400	4800	2400	2000	6500	
Hb (g/dl)	A	13.3	10.1	12.4	12.6	14.0	14.0		10.3	10.8	13.7	14.7	11.6	12.5	12.2	12.4		12.6	12.6	14.8	11.4	14.7	12.7		14.9	13.6	12.6	11.8	9.5	13.3	14.7
H (8)	В	12.5	10.0	12.6		13.7	14.0		10.5	12.2	15.5	14.5	11.7	12.6	11.5	11.6	11.5	12.6	11.7	14.7	11.5	14.8	12.3	12.2		14.9	13.1	10.8	9.7	13.3	
RBC 0*/mm³)	A	416	405	437	412	407	442		338	323	405	453	361	397	405	408		420	414	466	372	475	423		478	446	399	386	383	437	438
RBC (×10 ⁴ /mm³)	В	389	400	432		405	442		349	379	450	441	361	399	388	367	400	429	386	470	372	480	413	449		490	417	352	388	432	
Case No.		-	7	က	4	വ	9	7	œ	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	59	30

•

B: Before

Table 11 Sensitivity of clinical isolated organisms to AM-715

Inoculum size 10^s/ml

					,	,				,
MIC (µg/ml)		1								
Bacteria	0.05	0.1	0.2	0.39	0.78	1.56	3.13	6.25	12.5	25
S. aureus						1				ĺ
S. epidermidis						1				
S. faecalis					_		1	1		
E, coli	24	1			1					
P. mirabilis		1	1							
P. vulgaris		2								
P. morganii			1					1		
P. aeruginosa					2	3		1		
Pseudomonas sp.							1		1	1
Serratia								1	1	
Acinetobacter							1			
E. coli NIHJ	1									

Table 12 Sensitivity of clinical isolated organisms to AM-715

Inoculum size 106/ml

							711/	Jealain	<u> </u>	/ ****
MIC (µg/ml)										
Bacteria	0.05	0.1	0.2	0.39	0.78	1.56	3.13	6.25	12.5	25
S. aureus						1				
S. epidermidis					1	1				
S. faecalis							1	1		
E. coli	24	1		1						
P. mirabilis	2									
P. vulgaris	2									
P. morganii	1						1			
P. aerugonosa				2	2	2				
Pseudomonas .sp.							2			1
Serratia								2		
Acinetobacter						1				
E. coli NIHJ	1			·						

No. of strains eradicated/No. of strains isolated

Table 13 Relation between MIC and bacteriological response in AM-715 treatment

	Ta	ble 13	Table 13 Relation between MIC and bacteriological response in AM-715 treatment	between A	IC and	bacteriolog	gical respo	onse in A	M-715 t	reatment		(Acute	(Acute simple cystitis)	rstitis)
			MIC (MIC (ug/ml)	Inoc	Inoculum size 10° cells/ml	10° cell:	lm/s					Not	Total
Isolates	≤0.05	0.1	0.2	0.2 0.39	0.78	0.78 1.56 3.13 6.25 12.5	3.13	6.25	12.5	25	20	≥100	done	
S. aureus						1/1								$1 \angle 1$
S. faecalis													1/1	1/1 1/1
E. coli	21 / 22	1/1												22 / 23
P. mirabilis	1/1												1/1	1/1 2/2
P. vulgaris	1/1													1/1
P. aeruginosa						1/1								1/1
Total	23 / 24 (96%)	1/1 (100%)				2/2 (100%)				-			$\frac{2/2}{(100\%)}$	2/2 28/29 (100%) (97%)
	-													

No. of strains eradicated/No. of strains isolated

	Ta	ble 14	Relation	Table 14 Relation between MIC and bacteriological response in AM-715 treatment	IC and	bacteriolo	gical resp	onse in A	M-715 1	treatment		٥	(Complicated UTI)	ed UTI)
			MIC (MIC (ug/ml)	Inoc	Inoculum size 10° cells/ml	10° cell	ls/ml					Not	Total
Isolates	≤0.05	0.1	0.2	0.39	0.78	1.56	1.56 3.13	6.25	12.5	25	20	≥100	done	
S. epidermidis					1/1								-	1/1
S faecalis							1/1	1/1 1/1					2/2	4/4
E coli	2/2			0/1									1/1	1/1 3/4
K nneumoniae													2/2	2/2
P. mirabilis	1/1													1/1
P. vulgaris	1/1													1/1
P moreanii	1/1						1/1							2/2
Serratia sn								1/2						1/2
Acientohacter	1	d.				1/1								1/1
P aerueinosa	BIV	had:		2/2	2/2 1/2 1/1	1/1								4/5
P. putida	Mor	ratin neto	lobu				2/2							2/2
P. pseudomollei		Set 4 of	25.							1/1				1/1
Total	5/5			2/3	2/3	2/3 $2/2$ $4/4$ $2/3$ 6760	4 / 4	2/3		1/1			5/5	5 / 5 23 / 26 (100%) (88%)

性尿路感染症30名) に本剤を投与し、 急性 症 100%、 慢 性症81.8% の優れた効果を示した。

- 2. 細菌学的効果は,本剤投与前分離菌55株中50株が 消失し,90.9%という高い除菌率をみた。菌種別では, S. faecalis 5 株中 5 株 (100%), P. aeruginosa 6 株中 5 株 (83%) に消失を認め,グラム陽性球菌および P. aeruginosa による尿路感染症においても本剤の有用性 が 示唆 された。
- 3. 本剤投与前尿中分離菌の NA 耐性株20株 中 17 株 (85%)、 PPA 耐性株19株中18株 (95%) に消失を認めたことより、これら NA 及び PPA 耐性菌による尿路感染

症にも充分な臨床効果が期待し得る。

4. 自他覚的副作用は認められなかった。また、臨床 検査値においても BUN の軽度上昇1例を認めたのみで、 副作用の少ない薬剤との印象を得た。

文 献

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A CLINICAL STUDY ON AM-715 IN URINARY TRACT INFECTIONS

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A new orally active, chemotherapeutic agent AM-715 was studied clinically in the urological field, and the following conclusions were obtained.

- 1) AM-715 was administrated orally, as a rule, at the dosage of 300 mg or 600 mg per day for 3 or 5 days to 60 cases of urinary tract infections and the efficacy was evaluated in 50 cases.
- 2) Overall clinical efficacy rate was proved in 100% of 28 patients with acute simple cystitis, while 81.8% of 22 patients with chronic complicated U.T.I.
- 3) Bacteriologically, 50 out of 55 strains (90.9%) were eradicated. Especially, all of 5 strains of S. faecalis, 5 out of 6 strains of P. aeruginosa, 17 out of 20 strains resistant to NA and 18 out of 19 strains resistant to PPA were eradicated.
- 4) No adverse reaction was observed. Deterioration in laboratory findings was observed in one case as slight elevation of serum BUN.

From the above results, AM-715 would be a useful oral drug in the treatment of urinary tract infections.