NOTES

SENSITIVITY OF FRESHLY ISOLATED DYSENTERY BACILLI TO KANAMYCIN AND OTHER ANTIBIOTICS

When a drug is widely distributed, then its resistant strains are always observed. Among pathogenic organisms, drug-resistant strains have been noticed mostly in staphylococci, dysentery bacilli and tubercle bacilli. Recently we found dysentery bacilli resistant to streptomycin, chloramphenicol and oxytetracycline. Kanamycin discovered by Umezawa *et al.* (1957) has been reported to inhibit Gram positive and negative bacteria, and to be low toxic. Sensitivities to this antibiotic were examined with freshly isolated dysentery bacilli which were resistant to streptomycin, chloramphenicol or oxytetracycline are indicated in Table 1. These results indicate no cross resistance between kanamycin and streptomycin, chloramphenicol or oxytetracycline. A cross resistance between kanamycin and fradiomycin (neomycin) has been reported by Morikubo (1958) in artificial resistant strains of *E. coli*. However, as shown in Table, there was no complete parallelism between the sensitivity to kanamycin and that to fradiomycin in freshly isolated dysentery bacilli. Two strains were relatively resistant to fradiomycin and were inhibited at 50 mcg/cc, but they were sensitive to kanamycin and were inhibited at 3.125 mcg/cc.

This result indicates that, in case of strains freshly isolated, sensitivities of each strain to kanamycin and fradiomycin are not always parallel. It is also indicated in Table that kanamycin is an antibiotic worthy for clinical trials to dysentery.

REFERENCES

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Table 1. Minimum concentration of streptomycin (SM), oxytetracycline (OT), chloramphenicol (Ch), kanamycin (K) and fradiomycin (Fr) necessary for complete inhibition of freshly isolated dysentery bacilli

Strain Number	Type	Origin	SM mcg/cc	OT mcg/cc	Ch mcg/cc	Ka mcg/cc	Fr mcg/cc
107-57	<i>Sh. Flex.</i> 2a	Osaka Inst.	6.25	0.39	100.0 <	6.25	25.00
108-57	"	for Hygiene	6.25	0.39	100.0 <	6.25	25.00
109-57	"	"	6.25	0.78	100.0 <	6.25	25.00
110-57	"	"	6.25	0.39	100.0 <	6.25	25.00
111-57	"	"	6.25	0.78	100.0 <	12.50	25.00
112-57	"	"	6.25	0.78	100.0 <	6.25	25.00
113-57	"	"	100.00 <	100.00	100.0 <	6.25	25.00
114-57	<i>Sh. Flex.</i> 2b	"	6.25	0.78	100.0 <	3.125	6.25
115-57	"var. Y.	"	6.25	0.78	100.0 <	12.50	25.00
116-57	"	"	6.25	0.78	100.0 <	12.50	50.00
117-57	<i>Sh. Flex.</i> 2a	"	100.00 <	100.00 <	100.0 <	6.25	50.00
118-57	"	"	100.00 <	100.00 <	100.0 <	3.125	50.00
119-57	"	Joto Hosp.	6.25	0.78	100.0 <	3.125	50.00
120-57	"	Nagoya	6.25	100.00 <	0.39	6.25	50.00
121-57	"	"	6.25	100.00 <	0.78	6.25	6.25
122-57	"	"	6.25	100.00 <	0.78	6.25	25.00
123-57	"	"	6.25	100.00 <	0.39	6.25	25.00
4-57	<i>Sh. Flex.</i> 2b	Komagome	100.00	100.00 <	100.00	6.25	12.50
5-57	"	Hosp.	100.00	100.00 <	50.00	12.50	12.50
6-57	"	"	100.00 <	100.00 <	50.00	12.50	12.50
7-57	"	"	100.00	100.00 <	100.00	12.50	50.00
149-57	<i>Sh. Sonnei</i> 1	Ebara Hosp.	100.00 <	100.00 <	100.00 <	6.25	12.50
150-57	<i>Sh. Flex.</i> 1b	"	100.00 <	100.00 <	100.00 <	6.25	12.50
151-57	"	"	100.00 <	100.00 <	100.00 <	6.25	12.50
152-57	"	"	100.00 <	100.00 <	100.00 <	6.25	12.50
153-57	"	"	100.00 <	100.00 <	100.00 <	6.25	12.50
154-57	"	"	100.00 <	100.00 <	100.00 <	6.25	12.50
155-57	"	"	100.00 <	100.00 <	100.00 <	6.25	6.25
156-57	"	"	100.00 <	100.00 <	100.00 <	6.25	6.25
158-57	"	"	100.00 <	100.00 <	100.00 <	12.50	12.50
159-57	"	"	100.00 <	100.00 <	100.00 <	12.50	6.25
160-57	"	"	100.00 <	100.00 <	100.00 <	25.00	25.00
161-57	"	"	100.00 <	100.00 <	100.00 <	6.25	12.50
162-57	"	"	100.00 <	100.00 <	100.00 <	3.125	12.50
163-57	"	"	100.00 <	100.00 <	100.00 <	3.125	12.50
164-57	"	"	100.00 <	100.00 <	100.00 <	3.125	12.50
208-57	<i>Sh. Boydii</i> II	Nagoya	100.00	100.00 <	100.00	50.00	
209-57	"	Citizen	100.00	100.00 <	100.00 <	50.00	
210-57	<i>Sh. Sonnei</i> 1	Hosp.	100.00	100.00 <	100.00	50.00	
EW- 1	<i>Sh. dys.</i> , 1	Type culture				3.125	12.50
EW- 2	<i>Sh. dys.</i> , 2	"				3.125	12.50
EW- 3	<i>Sh. dys.</i> , 3	"				6.25	12.50
EW- 8	<i>Sh. Flex.</i> 1a	"				6.25	12.50
EW- 9	" 1b	"	12.50	0.78	1.56	3.125	12.50
EW-40	" 2b	"	12.50	0.78	1.56	3.125	12.50
EW-13	"var. Y.	"				6.25	12.50
EW-26	<i>Sh. boydii</i> 1	"				3.125	3.125
EW-27	" 2	"				6.25	3.125
EW-33	<i>Sh. Sonnei</i> 1	"				0.78	3.125