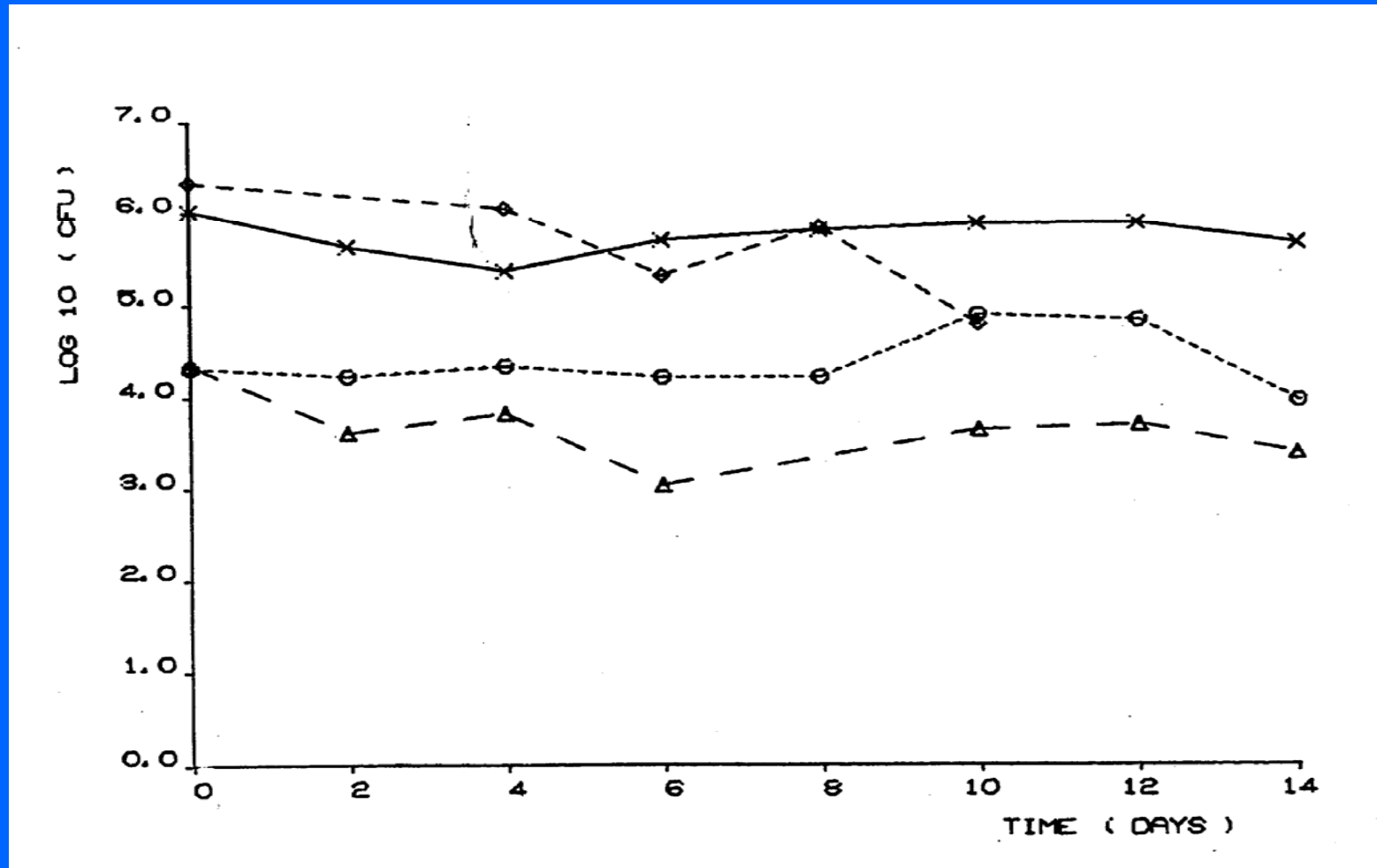




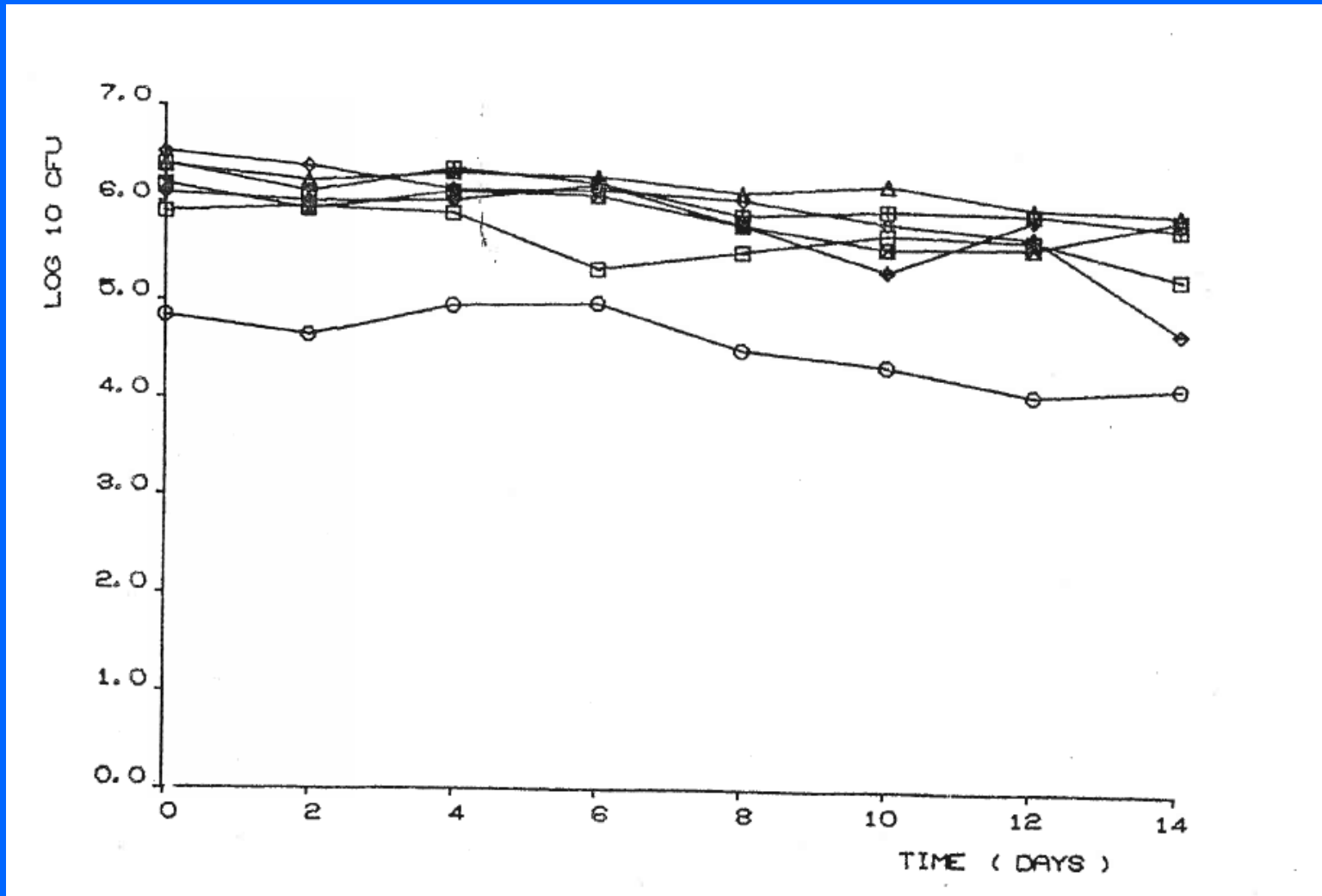
# The early bactericidal activity of pyrazinamide

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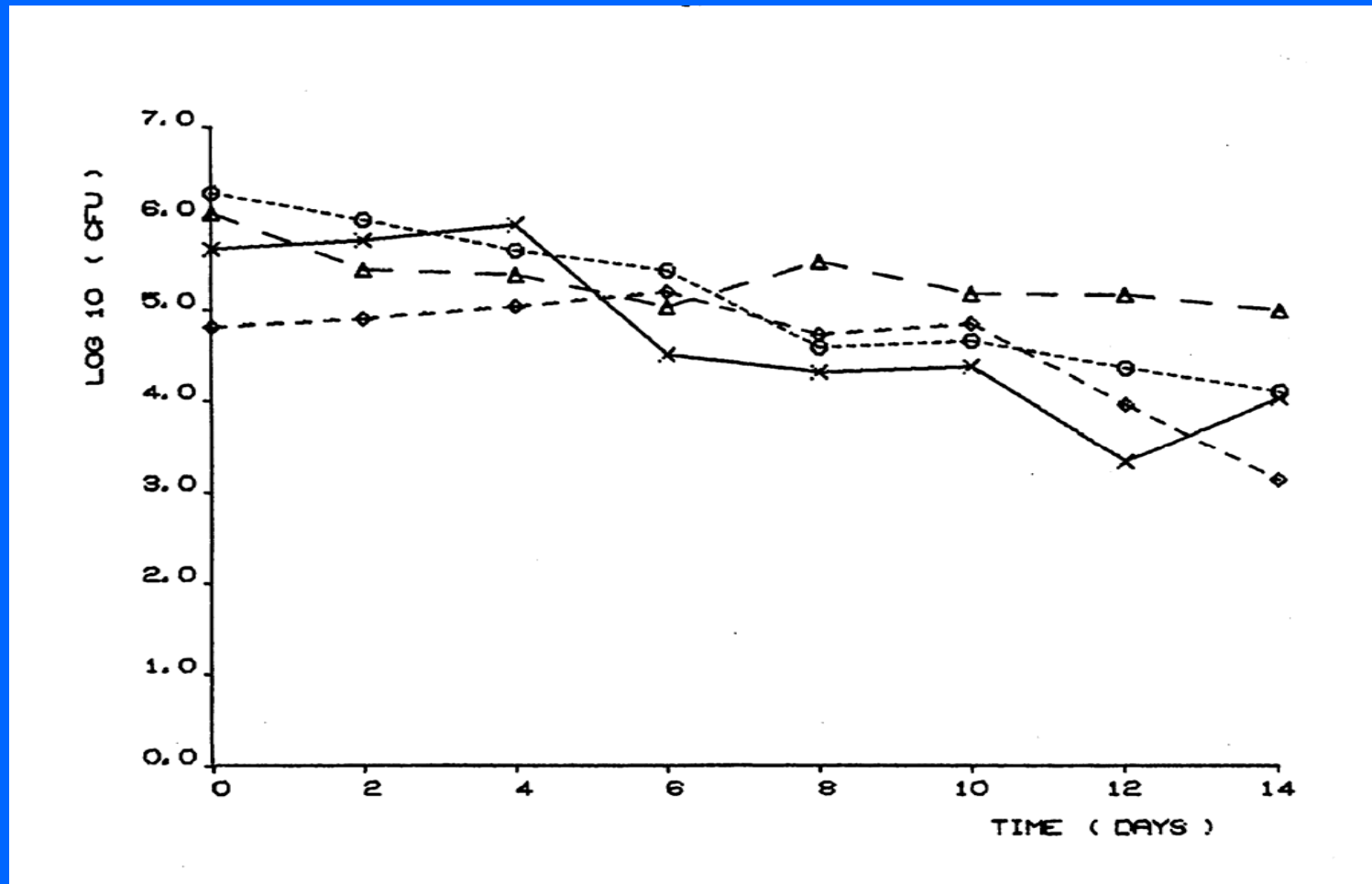
Regimen		Patients (no.)	Fall in colony count ( $\log_{10}$ cfu/day)		
drug	dosage		days		
			0 - 2	2 - 14	0 - 14
Drug-free		4	-0.024	-0.023	-0.024
T	150 mg	8	0.067	0.037	0.037
P	15 g	4	0.259	0.076	0.096
Z	2 g	9	0.044*	0.113	0.110
R	10 mg/kg	8	0.187	0.096	0.113
S	1 g	4	0.094	0.128	0.119
M	25 mg/kg	4	0.246	0.160	0.177
H	300 mg	4	0.722	0.113	0.192
SH		4	0.510	0.066	0.123
HM		4	0.702	0.051	0.140
HZ		4	0.494	0.098	0.155
RM		4	0.558	0.124	0.174
SZ		4	0.118	0.176	0.199
SR		4	0.325	0.210	0.230
HR		4	0.714	0.227	0.287
SHR		4	0.321	0.146	0.168
HRM		4	0.487	0.121	0.178
SHZ		4	0.799	0.153	0.246
SHRZ		4	0.685	0.161	0.232
SHRZM		4	0.686	0.200	0.273
Mean of drug-containing regimens			0.422	0.129	0.171



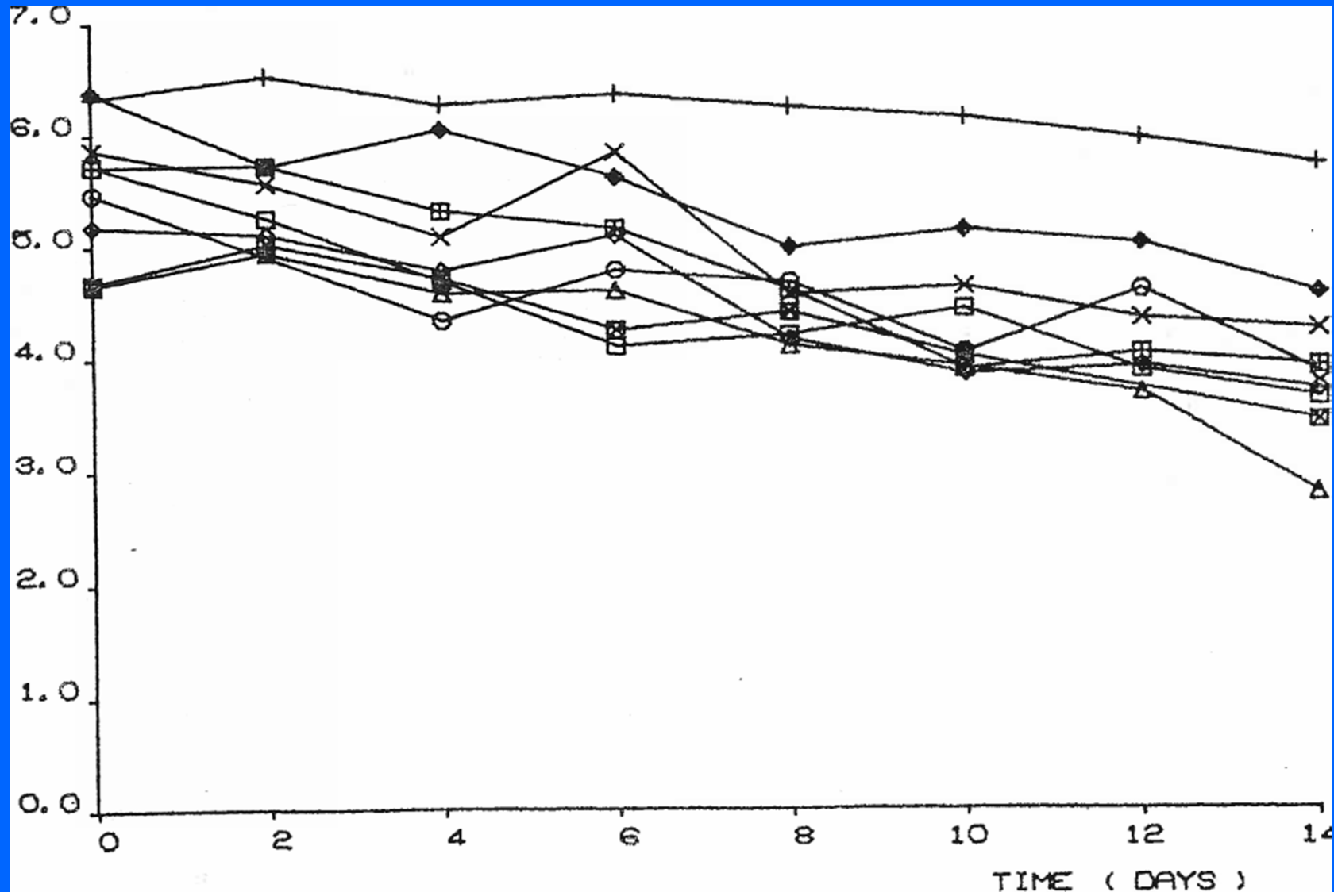
## Mean decrease in log<sub>10</sub> CFU in T Group



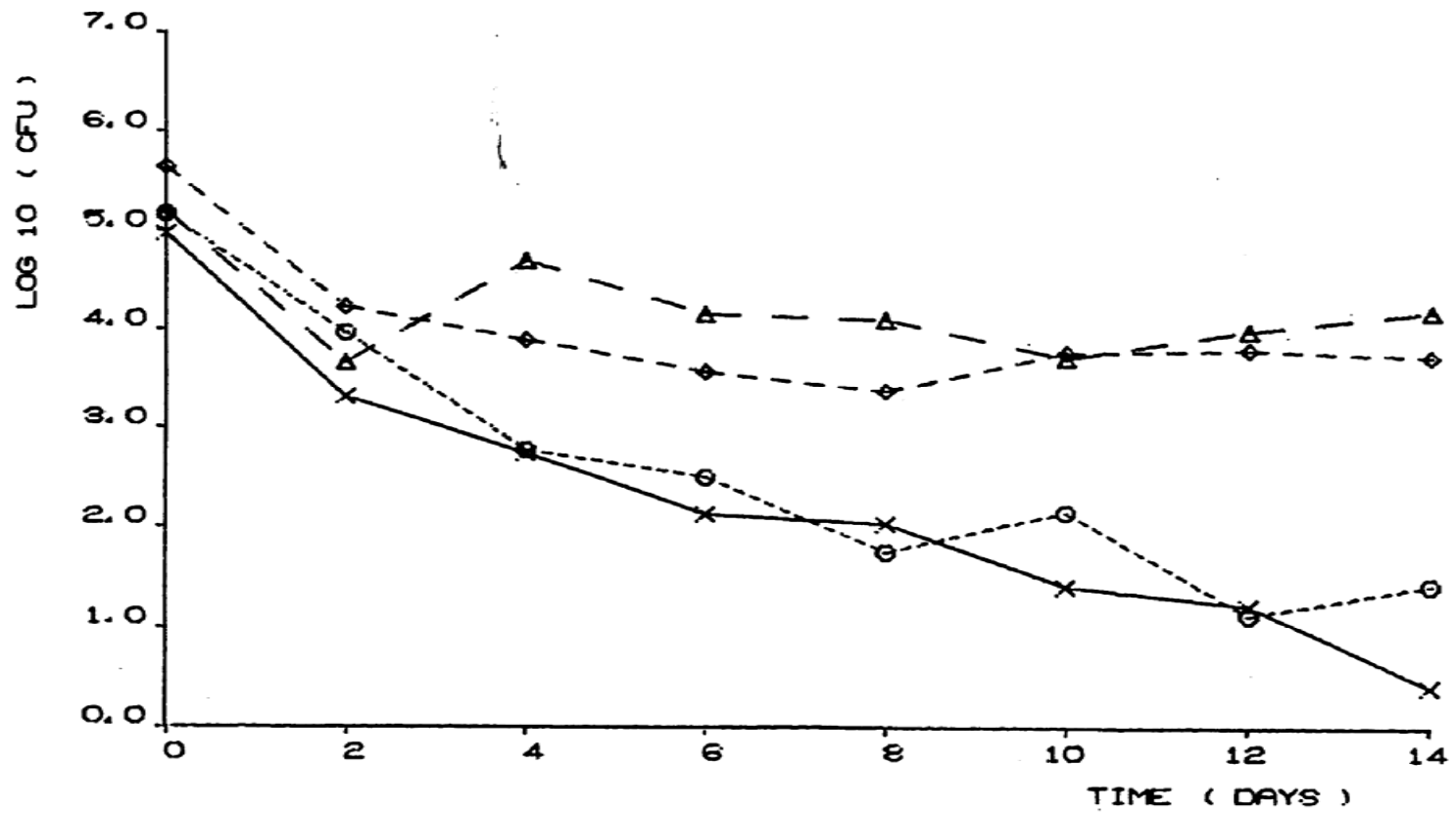
## Mean decrease in log<sub>10</sub> CFU in S Group



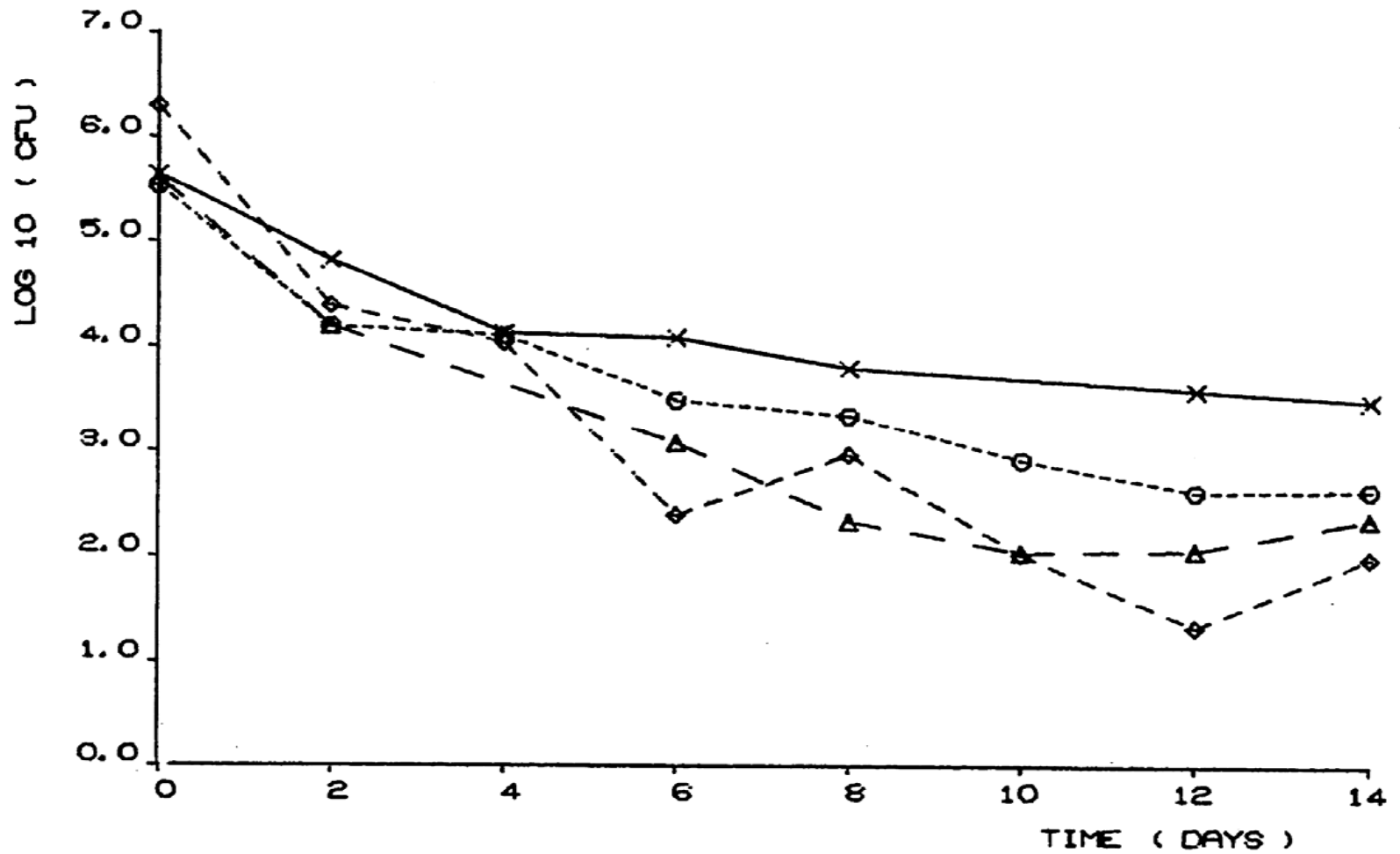
## Mean decrease in $\log_{10}$ CFU in Z Group



## Mean decrease in log<sub>10</sub> CFU in H Group

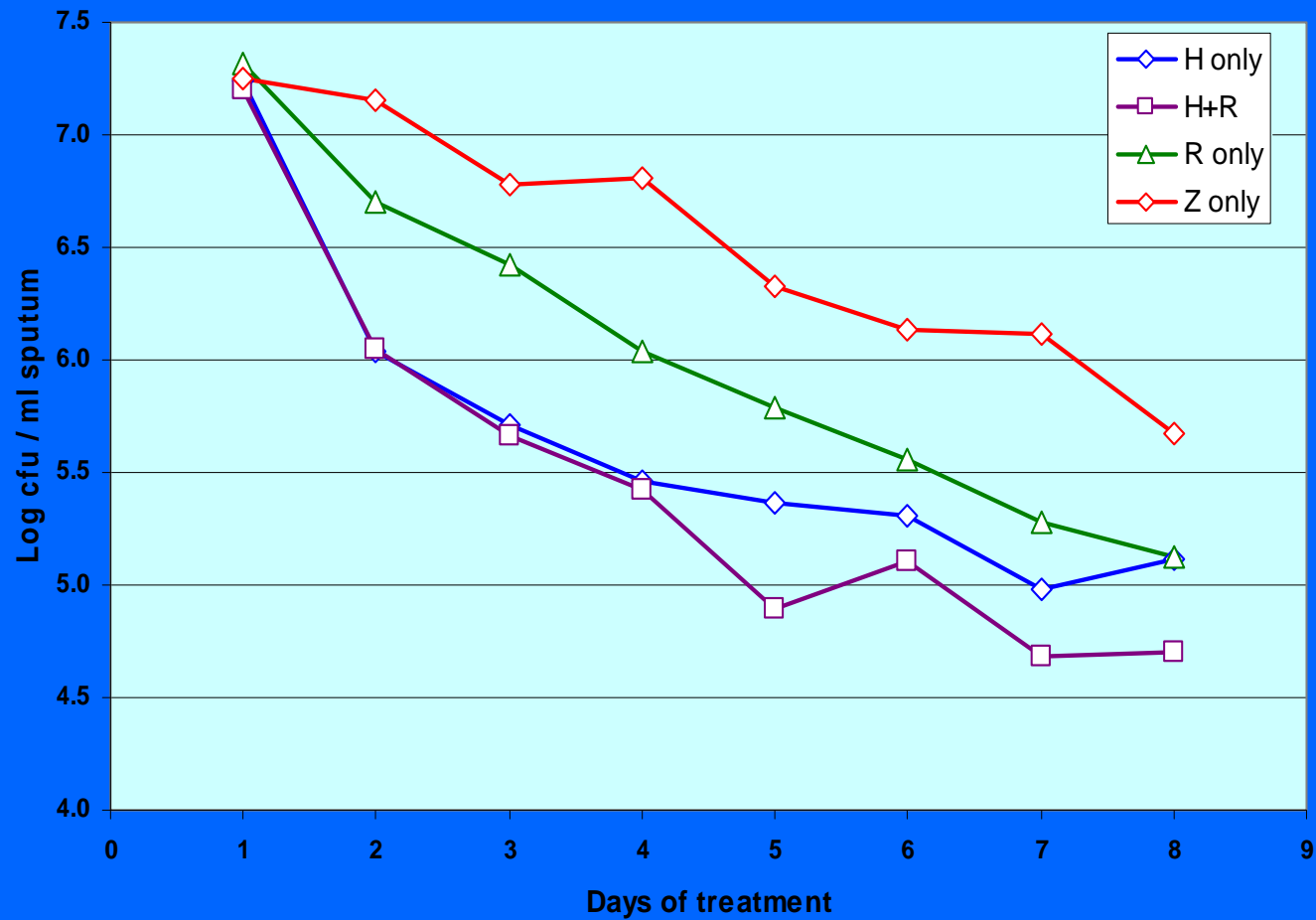


## Mean decrease in log<sub>10</sub> CFU in SHRZ Group

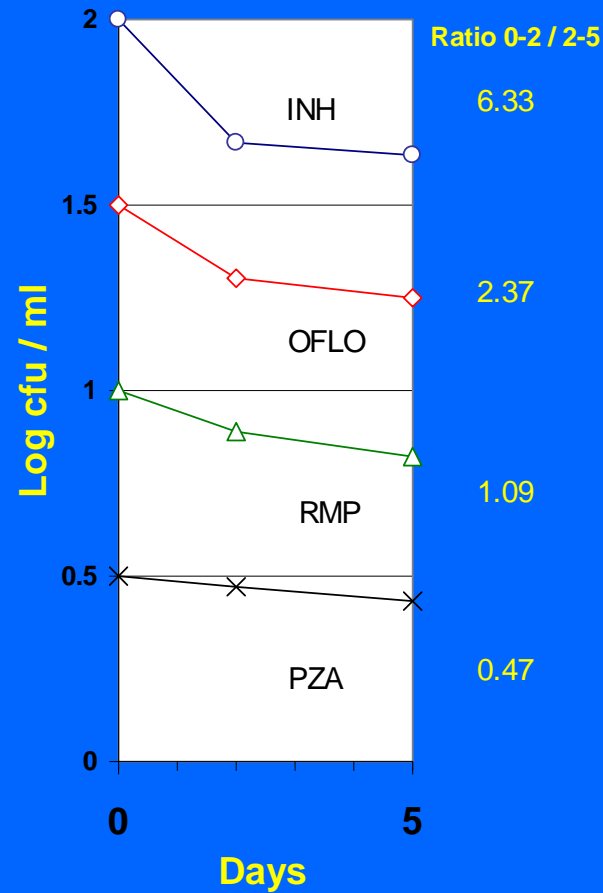




## Mean decrease in log<sub>10</sub> CFU in H, R, Z and HR Groups



# Ratio method for indicating sterilizing activity



Sirgel FA, Donald PR, Odhiambo J, Githui W, Umapathy KC, Paramasivan CN, Tam CM, am KM, Lam CW, Sole KM, Mitchison DA. 2000. A multicentre study of early bactericidal activity of anti-tuberculosis drugs. JAC; 45:859-870.

# Fall in cfu in single drugs



Regimen	No. patients	DAYS		
		0 – 2	2 – 14	0 – 14
Drug free	4	-0.024	-0.023	-0.024
Z	9 (2g)	0.044	0.113	0.110
T	8 (150mg)	0.067	0.037	0.037
S	4(1g)	0.094	0.128	0.119
R	8(10mg/kg)	0.187	0.096	0.113
M	4(25mg/kg)	0.246	0.160	0.177
P	4 (15g)	0.259	0.076	0.096
H	4 (300mg)	0.722	0.113	0.192

# Fall in cfu in double drugs



Regimen	No. patients	DAYS		
		0 – 2	2 – 14	0 – 14
HR	4	0.714	0.227	0.287
HM	4	0.702	0.051	0.140
HS	4	0.510	0.066	0.123
HZ	4	0.494	0.098	0.155
RM	4	0.558	0.124	0.174
SR	4	0.325	0.210	0.230
SZ	4	0.118	0.176	0.199

## Fall in cfu in Multiple drugs

Regimen	No. patients	DAYS		
		0 – 2	2 – 14	0 – 14
SHR	4	0.321	0.146	0.168
HRM	4	0.487	0.121	0.178
SHZ	4	0.799	0.153	0.246
SHRZ	4	0.685	0.161	0.232
SHRZM	4	0.686	0.200	0.273

## Pyrazinamide containing regimens



Regimen	No. patients	DAYS		
		0 – 2	2 – 14	0 – 14
Drug free	4	-0.024	-0.023	-0.024
H	4 (300mg)	0.722	0.113	0.192
Z	9 (2g)	0.044	0.113	0.110
HZ	4	0.494	0.098	0.155
SZ	4	0.118	0.176	0.199
SHZ	4	0.799	0.153	0.246
SHRZ	4	0.685	0.161	0.232
SHRZM	4	0.686	0.200	0.273

## Effect of H on early fall in sputum colony counts



Drugs in regimen (No.)	Drugs other than H		Mean fall in days 0 – 2( $\log_{10}$ cfu/day)		
			No H	H	Mean
1	--		-0.024	0.722	0.349
2	Z	Fall in cfu in single drugs	0.048	0.494	0.271
	R		0.090	0.714	0.402
	S		0.094	0.510	0.302
	M		0.246	0.702	0.474
	Mean		0.119	0.605	0.362
3	SZ		0.118	0.799	0.458
	RM		0.558	0.487	0.522
	SR		0.325	0.321	0.323
	Mean		0.334	0.536	0.435

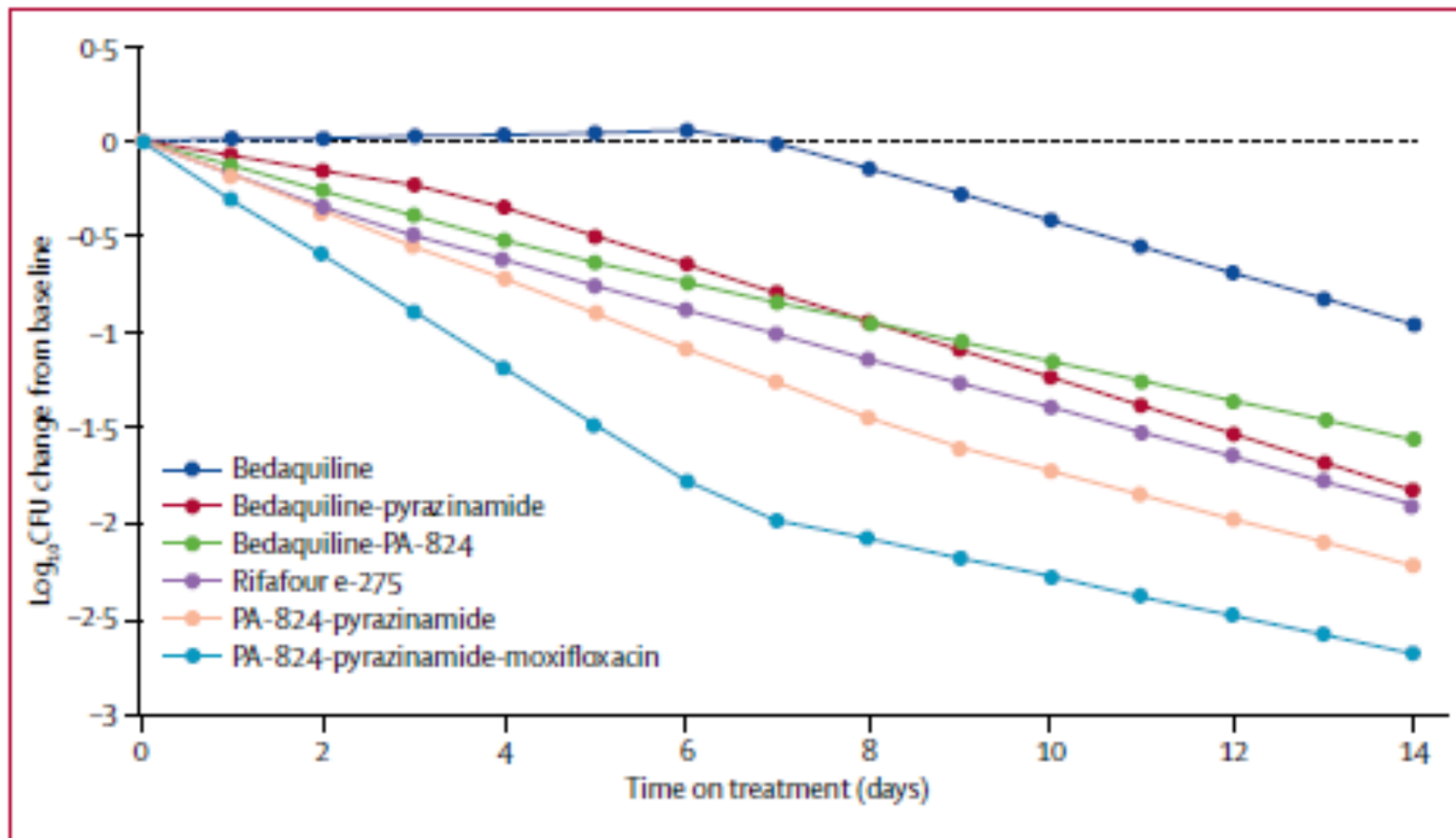


Figure 2: Bilinear regression showing the fall in mean  $\log_{10}$ CFU from baseline  
CFU=colony forming unit.



## Relative bactericidal activity of drugs

	<u>In vitro</u>	<u>Mouse</u>	<u>Man(early)</u>	<u>Man(late)</u>
High Activity	S	Z	H	R
		R		Z
	H	H	R	
	R			H
			M	
Low Activity	M	S	S	S
	Z	M	Z	M