Resurgence of Chloramphenicol Sensitive *Salmonella typhi*

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Multidrug resistance of *Salmonella typhi* has posed a serious problem in developing countries like India(1-4). Though, the safety in the use of quinolones in children has not been well documented, pediatricians use them for the lack of alternatives. This study was undertaken to find out the current trend of antibiotic sensitivity of *Salmonella typhi.*

Material and Methods

One hundred thirty four culture positive cases of enteric fever during the period January 1990 to December 1993 seen at Takkar Children Hospital, Ludhiana (Punjab) were analysed for drug sensitivity pattern of *Salmonella typhi.* Drug sensitivity pattern of 50 cases (Group I) from October 1991 to December 1993 was compared with our previous study of 84 cases (Group II) from January 1990 to September 1991(5). After collecting blood sample, chloramphenicol was started and continued if the strains of *Salmonella typhi* were sensitive to it, whereas multidrug resistant cases were treated with either ciprofloxacin or a combination of cephalaxin and gentamicin.

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Results

It was observed that 40 out of 50 isolates (80%) of *S. typhi* during October 1991 to December 1993 (Group I) were sensitive to chloramphenicol while only 28 (33.3%) out of 84 were sensitive to chloramphenicol (Group II) from January 1990 to September 1991 *(Table I).*

In Group I, sensitivity to ampicillin, contrimoxazole and tetracycline was 54%, 72% and 72%, respectively as compared to 28.6%, 33.3% and 33.3%, respectively in Group II *(Table I).* Clinical features and complications of typhoid fever are summarized in *Table II.*

Discussion

The manuscript reports the antibiotic sensitivities of strains of *Salmonella typhi* isolated from children over a period of 4 years from January 1990 to December 1993. It is noteworthy that 80% of strains isolated from October 1991 to December 1993 were chloramphenicol sensitive as compared to only 33.3% of strains during the period January 1990 to September 1991 ($p < 0.01$). Thus, there has been a significant increase in the sensitivity of *Salmonella typhi* to chloramphenicol over the past $2^{1/2}A$ years. The present study highlights the resurgence of chloramphenicol sensitive *Salmonella typhi* which may be because of restricted use of this drug in the community. It is possible that chloramphenicol

TABLE I-*Changing Sensitivity Pattern in Salmonella typhi Strains*

Antibiotic	Group I (n=50) (Oct 1991 to Dee 1993)		Group II (n=84) (Jan 1990 to Sep 1991)		Significant p <0.01
	No.	%	No.	0/0	
Chloramphenicol	40	(80)	28	(33.3)	P <0.01
Ampicillin	27	(54)	24	(28.6)	P <0.01
Cotrimoxazole	36	(72)	28	(33.3)	P <0.01
Tetracyc1ine	36	(72)	28	(33.3)	P <0.01
Kanamycin	*A6*	(92)	76	(90.4)	-
Gentamycin	47	(94)	84	(100)	-
Cephalexin	45	(90)	82	(97.6)	-
Amikacin	48	(96)	84	(100)	-
Norfloxacin	47	(94)	84	(100)	-
Ciprofloxacin	50	(100)	84	(100)	-

TABLE II-*Comparative Clinical Profile in Enteric Fever*

	Chloram-phenicol sensitive (Groups I & II) (n=68)	Chloram-phenicol resistant (Groups I & 1I) (n=66)
Average age (yr)	5	7
Average duration of fever at admission (days)	5	8
Hepatomegaly	20	25
Splenomegaly	18	10
Shock	3	5
GI hemorrhage	1	3
Encephalopathy	2	4
Paralytic ileus	1	2
Bronchopneumonia	1	1
Parotitis	0	2
Hepatitis	1	1

col may re-emerge as the antibiotic of choice.

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