

PEFLACIN (PEFLOXACIN) IN THE TREATMENT OF TYPHOID FEVER

MUHAMMAD ILYAS SAEEDI, MUHAMMAD ALI KHAN, S MUSANIF SHAH,
MASOOD UR REHMAN, MUSHTAQ AHMED AND TARIQ ZUBAIR

*Department of Medicine,
Postgraduate Medical Institute,
Lady Reading Hospital, Peshawar.*

SUMMARY

Twenty five patients (mean age of 23.9 years) with clinical diagnosis of typhoid fever supported with positive widal test and/or blood/bone marrow culture were included in the trial. Most of the patients had already used Chloramphenicol and Amoxycillin without any effect. Peflacin (Pefloxacin) was administered orally to all patients at a daily dose of 800 mg (400 mg B.D) for seven days. Clinical cure was achieved in all patients and 90% of them were afebrile on the 4th day of treatment. They remained afebrile for 4 weeks after completion of treatment. Two patients had nausea and vomiting during the first day of treatment. Patient compliance was good and well tolerated the drug.

INTRODUCTION

Typhoid fever is still quite common in our country. Chloramphenicol, Amoxycillin, Ampicillin and Co-trimoxazole had been the standard treatment. However they have several disadvantages and an increasing number of *Salmonella typhi* strains are getting resistant to them. Hence an antimicrobial which would be effective would be of great interest in treating enteric fever. Quinolones have a broad spectrum of activity. This paper shows our experience with peflacin (Pefloxacin).

MATERIAL AND METHODS

Both male and female patients over the age of 16 years with history, strongly suggestive of typhoid fever, were included in the study. There were 25 patients in all, with sixteen male and nine female. The average age was 23.9 years. Pregnant and lactating females, and patients with liver failure or complicated typhoid fever requiring surgery in emergency were not included in the study. Study was carried out in

Medical "C" Unit PGMI/LRH, Peshawar and approved by the ethical committee.

Peflacin therapy was started after taking blood and bone marrow culture without waiting for the laboratory results. Bacteriological identification of the blood isolates was done with oxid system and slide agglutination tests. The susceptibility of the isolates to peflacin was tested by standardised agar diffusion method with 5 µg disk and Muller Hinton medium. Strains were considered to be susceptible to peflacin if the diameter of inhibition was 22 mm and resistant if the diameter of inhibition was 16 mm.

Peflacin was administered orally at the dose of 400 mg every twelve hours. After four days the treatment was reviewed and a decision was made either to stop the treatment if there was no clear cut defervescence in temperature or to go on for a total course of seven days. Patients were clinically monitored and followed for period of one month in the out patient dept.

TABLE - I
DRUG SENSITIVITY OF SALMONELIA TYPHI GROWN

NO.	ORGANISM	SENSITIVITY TO VARIOUS ANTIBIOTICS			
		AMOX	CHLORM	ROCH	PEFLA
1	SALM TYPHI	R	R	++	++++
2	SALM TYPHI	++	R	R	++++
3	SALM TYPHI	R	R	++	++++
4	SALM TYPHI	R	R	+++	++++
5	SALM TYPHI	R	R	++	++++
6	SALM TYPHI	+++	++++	++++	++++
7	SALM TYPHI	R	R	++++	++++
8	SALM TYPHI	R	R	++++	++++
9	SALM TYPHI	R	R	++++	++++

AMOX : AMOXIL

CHILORM : CHLORAMPHENICAL

ROCH : ROCEPHEN

PEFLA : PEFLACINE

R : RESISTANT

++++ : SENSITIVE

++ : PARTIALLY SENSITIVE

RESULTS

Twenty five patients were included in the study. Their mean age was 23.9 years. Average temperature on presentation was 101.75 with average duration of fever 16.7 days. Temperature started coming down on 2nd and 3rd days. After 4th day 20 patients (83%) were afebrile and there was marked reduction in temperature in the remaining five patients.

DISCUSSION

Our study of Pefloxacin 400 mg twice daily for seven days achieved clinical cure. These results are in agreement with the previous studies of Pefloxacin in treating typhoid fever¹. In the comparative study by Haji et al (1988)² Symptoms had disappeared in 62% of patient after five days of treatment with pefloxacin 400 mg B.D but only 22% of the patient were apyrexial on 160/80 mg Co-trimoxazole twice daily (P<0.01). At the end of the therapy (14

days) symptoms had resolved in all patients in both groups, however, the time that elapsed before achieving apyrexia was significantly shorter in the group treated with pefloxacin 4.3 Vs 7.75 days (P<0.01).

The excellent results observed in our study with pefloxacin confirmed those already observed in Egypt³ with seven days course of treatment and with same period of treatment in Algiers⁴ also confirmed in vitro study by Abdul Hanan⁵. Compared to other antimicrobial, a seven days oral course of Pefloxacin in typhoid fever appears as effective as a 10 days course of oral ofloxacin⁶ and seven days course of parental ceftriazone⁷. The drug was rapidly active with respect to temperature defervescence since most of the patients were afebrile after 3 to 4 days of therapy. The excellent activity of pefloxacin in typhoid fever may be attributed to its high biliary levels and prolonged faecal excretion in the form of active metabolite⁸. Patient's compliance was

good since they all completed the seven days treatment. No allergic photosensitization reaction was observed. Only two patients reported nausea and mild epigastric pain.

Serological studies may be helpful in the context of a strong clinical suspicion. However, for a definitive diagnosis isolation of the organism is important. In our study 9 patients grew salmonella typhi from bone marrow culture while only 3 grew the organism from blood culture.

The addition of bone marrow culture has increased the yield to 3 fold when added to blood culture examination. The blood culture yield can further be improved if repeated blood for culture are taken from various sites.

Looking at the sensitivity chart (Table-1) they were almost all resistant to Amoxycillin and chloramphenicol except one, but were all sensitive to pefloxacin and Ceftriaxone.

In conclusion, this clinical trial demonstrates that a seven days course of oral Pefloxacin is safe and effective in the treatment of typhoid fever. Further more while investigating for typhoid fever, the yield increases when bone marrow culture examination is added to the conventional blood culture. Also almost all the organism were resistant to the standard drugs like Amoxycillin and chloramphenicol but sensitive to the new group of antimicrobial quinolone (Pefloxacin).

ACKNOWLEDGEMENT

We acknowledge thanks to Dr. Liaqat Ali and Malik Latif of Micro-biology

department for their help in analysing the blood culture.

REFERENCES

1. Cristiano P, Morcelli G, Briante V, Lovenc MR, Sinjoli F, Altucci P. Clinical experience with Pefloxacin in the therapy of typhoid fever. *Infection* 1989; 17: 86.
2. Hajji M, El Mdaghri N, Benbachir M, Marhoum El Filali K, Himmich H. Prospective randomised comparative trial of Pefloxacin versus Cotrimoxazole in the treatment of typhoid fever in adults, *European Journal of clinical Microbiology and Infection Diseases* 1988; 7: 361.
3. GF Loza, DM, Helwan Pefloxacin in the management of typhoid fever. *International journal of Clinical practice*, 1989; 19: 21.
4. Ait Khaled A, Zidane L, Amrane A, Aklil RA. Seven day Pefloxacin course for the treatment of typhoid fever in Algeria. *Rev of Infect Dis* 1989; 11: 1191.
5. Hanan A. Comparative in vitro activity of enoxacin and other fluoro-quinolones against multi-resistant strains of Salmonella typhi. *Curr. Med. Res. Opin.*, 1992; 12: 560.
6. Wang F, Gu XJ, Zhang MF, TiTy. Treatment of typhoid fever with ofloxacin *Rev Infect Dis* 1989; 11: 1192.
7. TiTy, Monteire EH, Lam S, Lee HS, Ceftriaxone therapy in bacteraemic typhoid fever. *Antimicrob Agents Chemother* 1985; 28: 540.
8. Janin N, Meugnier H, Desnottes JF, Weehrle R, Fleurette J. Recovery of Pefloxacin in saliva and feces and its action on oral and fecal flora of healthy volunteers. *Antimicrob Agents Chemother* 1987; 31: 1665.