Treatment of *Salmonella paratyphi* A Infection with Oral Ofloxacin

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A patient with paratyphoid fever relapsed bacteriologically during the treatment with chloramphenicol, and was treated with daily doses of 600 to 800 mg of ofloxacin for 14 days. *Salmonella paratyphi* A was eradicated. Ofloxacin appears to be an effective drug for the eradication of *S. paratyphi* A.

**Key words:** Paratyphoid fever, Bacteriological relapse, Chloramphenicol, Ofloxacin

*Salmonella paratyphi* A infections are now uncommon in Japan, where chloramphenicol (CP), ampicillin (ABPC) and amoxicillin (AMPC) are usually used for therapy. Recently, the effectiveness of ofloxacin (OFLX) (1), ciprofloxacin (CPFX) (2), and norfloxacin (NFLX) (3) for *Salmonella typhi* infections has been reported. *S. paratyphi* A infections are pathologically and clinically similar to *S. typhi* infections, but the symptoms are generally more mild. The following report describes a case of *S. paratyphi* A infection which was successfully bacteriologically eradicated with OFLX treatment.

**CASE REPORT**

A 62-year-old Japanese man who had visited India from September 18 to 25, 1988 was admitted to a hospital in Tokyo on October 31, 1988 with the chief complaint of a fever. Although blood culture was not performed, stool culture on November 5 was positive of *S. paratyphi* A and he was referred to the Department of Infectious Diseases, Tokyo Metropolitan Bokuto General Hospital on November 10. On admission, he was afebrile and no remarkable physical findings were found. The hematological and biochemical data on admission were as follows; WBC 5,600/mm³, RBC 450 x 10⁴/mm³, Hb 13.9 g/dl, Ht 41%, Plat 36.4 x 10⁴/mm³, TP 6.2 g/dl, Alb 3.6 g/dl, IgG 1,104 mg/dl, IgA 176 mg/dl, IgM 134 mg/dl, BUN 11 mg/dl, CRN 1.0 mg/dl, GOT 23 IU/l, GPT 25 IU/l, LDH 388 IU/l, ALP 215 IU/l, T-Bil 0.5 mg/dl, FBS 90 mg/dl, AML 99 IU/l, CPK 53 IU/l, CRP 0.4 mg/dl (normal <0.3 mg/dl). Abdominal ultrasound and CT scan revealed 3 cysts in the liver which were probably congenital; no stone was identified in the liver or biliary tract. Before admission to our department he had been given a daily oral dose of 1,500 mg of CP from November 8 to 10, and after admission daily doses of 1,500 mg and 1,000 mg of CP were administered orally from November 10 to 16 and from November 17 to 26, respectively. The stool culture was negative for *S. paratyphi* A from November 15 to 21, but positive from November 22 in spite of the administration of CP. His bile culture was also positive on November 30. A daily oral dose of 600 mg and 800 mg of OFLX were given from December 1 to 5 and from December 6 to 15, respectively. *S. paratyphi* A disappeared in his stool on December 4 and in the bile on December 12. He was discharged from the hospital on December 28. No drug related adverse reaction was observed. No hematological, biochemical or urinary abnormalities due to OFLX were found. After his discharge, the stool cultures...
Ofloxacin in *Salmonella paratyphi A*

![Table showing antibiotic administration and bacterial culture results](image)

Fig. 1. The stool culture was negative for *S. paratyphi A* from November 15 to 21, 1988, but positive from November 22 in spite of the oral administration of chloramphenicol (CP). The bile culture was also positive on November 30. Ofloxacin (OFLX) was given orally from December 1 to 15. *S. paratyphi A* disappeared in the stool from December 4, and in the bile on December 12, 1988, January 9 and 30, 1989.

on January 5, 8, 12, 18, 23 and 30, 1989, and the bile cultures on January 9 and 30, 1989 were all negative. The treatment schedule and the results of stool and bile cultures for *S. paratyphi A* are given in Fig. 1.

In the present case, the minimum inhibitory concentrations (MICs) of OFLX for *S. paratyphi A* were 0.39 µg/ml (Nov. 10, Nov. 24), and those of CP for the bacteria were 6.25 µg/ml (Nov. 10) and 25 µg/ml (Nov. 24).

**DISCUSSION**

The mean concentration of OFLX in the serum of 10 patients with cholelithiasis has been reported to be 3.10, 1.87, 1.76 µg/ml at 2, 4, and 6 h after administration of 200 mg of the drug, respectively (4). The concentration of OFLX in gall bladder bile has been reported to range from 2.65 to 36.58 µg/ml, and in gall bladder tissue from 2.81 to 9.88 µg/g at approximately 4 h after five consecutive administrations of 200 mg of OFLX (5). The low MIC of OFLX for this organism, and therapeutically efficient OFLX levels in serum and bile indicate that OFLX is useful for the eradication of *S. paratyphi A*. Although more case studies are needed, our experience suggests that OFLX may be effective to eradicate *S. paratyphi A*.

**ACKNOWLEDGEMENTS:** The authors express their gratitude to Dr. Noboru Okamura, Department of Microbiology, The Institute of Public Health of Japan, for MICs of OFLX and CP, and Mr. Steve Cousins for checking the English.

**REFERENCES**


