**SUMMARY**

A case of meningitis due to *Listeria monocytogenes* is presented. The patient, a 60-year-old male, receiving the prediagnosis of acute bacterial meningitis, was first treated with ceftriaxone. Upon progression of clinical findings and consideration of his family history of tuberculosis and the compatibility of cerebrospinal fluid (CSF) findings with tuberculous meningitis, anti-tuberculous treatment was implemented. An agent was isolated in his cerebrospinal fluid 24 hours after the implementation of anti-tuberculosis treatment. The agent was identified as *L. monocytogenes*. All of the anti-tuberculosis drugs were stopped except rifampin to which ampicillin was added. The case was cured with the combination of ampicillin and rifampin.

**ÖZET**


**INTRODUCTION**

There have been no controlled clinical trials to establish a drug of choice for listerial infection, but ampicillin is generally considered as the agent of choice. Most authorities suggest adding gentamicin to ampicillin for treatment of severe listerial infections such as bacteremias, central nervous system infection and endocarditis (1-3). Nevertheless, these drugs are bacteriostatic for listeriae. Rifampin could be consired an alternative drug to obtain a bactericidal effect and to be used in combination with ampicillin (2-5).

In this paper, a case of listerial meningitis is presented. This case was treated with the combination of ampicillin and rifampin. The diagnosis and treatment of the infection were discussed in the light of available literature.

**CASE**

A 60-year-old male farmer, previously healthy, but complaining of sudden onsets of severe headache, nausea, vomiting and fever had been diagnosed as acute bacterial meningitis after a six-hour examination by a specialist of infectious diseases and the empirical
The diagnosis was confirmed by polymerase chain reaction by 16 S rRNA gene sequence, using universal primers. With antibiotic susceptibility test using disk diffusion according to the guidelines of NCCLS, the agent was found susceptible to ampicillin, vancomycin, rifampin, gentamicin, chloramphenicol and penicillin G, but resistant to ceftriaxone.

On the second day of anti-tuberculosis therapy, the patient was still in a mid-level coma. After obtaining antibiotic susceptibility test results on the third day, ampicillin (four gram injections at every hour) was begun; and INH, STR and PZA were removed from the treatment. Rifampin and dexamethasone administration were continued. After the fourth day of the anti-tuberculosis treatment, the patient was afebrile and conscious and as his general symptoms improved. Dexamethasone administration was stopped on day 10 while ampicillin and rifampin were continued for 21 days. After the treatment, CSF cell count and biochemical parameters returned to normal levels and the patient recovered without sequelae.

DISCUSSION

Ampicillin is the most active agent in the treatment of *L. monocytogenes* meningoitis while third generation cephalosporins are found ineffective in the treatment (1, 2). Results from *in vitro* studies have indicated that antibiotics such as chloramphenicol, erythromycin, doxycyclin, rifampin, and trimethoprim-sulfamethoxazole are also effective in this clinical entity. Clinical studies on the therapy of the infection show the efficacy of the mentioned antibiotics except penicillin derivatives and trimethoprim-sulfamethoxazole (3-8). Unfortunately, most antibiotics are not bactericidal for *Listeria* Drug combinations may exert a synergistic effect. Furthermore, the efficacy of therapy is limited by intracellular habitat of pathogenic listeriae (1-6). The clinical experience is that the combination of amoxicillin and gentamicin is still the best opinion (1, 2). Despite the effectiveness of the antibiotics in *in vitro* studies, clinical studies have shown that rifampin administration alone is not effective. In *vitro* studies on the clinical isolates reported a rare additive effect with rifampin-ampicillin combination, but generally, antagonistic effect was obtained (3-8). On the other hand, there are *in vitro* studies reporting synergistic effect obtained with combined use of rifampin and ampicillin. Rifampin also has a good penetration into phagocytic cells. It is suggested that further clinical studies are needed for this combination (2-7).

In the present case, on the third day of anti-tuberculosis treatment, all the antituberculous drugs were stopped except rifampin to which dexamethasone and ampicillin were added. After the fourth day, the fever relapsed to...
normal, patient regained consciousness and his general symptoms improved. This recovery might have been dependent on the effect of rifampin. Steroids might have also contributed to the improvement of clinical symptoms. No improvement was observed with the initial empirical treatment that included neither prednisolone, and clinical improvement achieved on the fourth day cannot be due to dexamethasone. The combination of ampicillin and rifampin was administered for 21 days. Clinical findings and CSF parameters of the patient were completely normal at the end of the treatment. The administration of this drug combination indicated the absence of antagonistic effect in in vivo.

In conclusion, L. monocytogenes should also be considered as an agent when etiological diagnosis of meningitis is to be made. This case is presented to emphasize the negative outcome of empirical treatment when L. monocytogenes was not considered. Additionally, the administration of a rifampin and ampicillin combination for treatment should be further studied in future investigations.

REFERENCES