ANTIMICROBIAL AGENTS AND CHEMOTHERAPY, May 2010, p. 2276–2277 Vol. 54, No. 5
0066-4804/10/$12.00 doi:10.1128/AAC.01815-09

Cure of *Listeria monocytogenes* Meningitis after Early Transition to Oral Therapy▽

Due to its lethality, *Listeria monocytogenes* infection of the central nervous system (CNS) typically is treated parenterally. We describe a case of *L. monocytogenes* meningitis cured with trimethoprim-sulfamethoxazole (TMP-SMX) utilizing early oral therapy on an outpatient basis.

A 64-year-old woman was hospitalized with an acute onset of fever and personality change. She had a history of hypertension and rheumatoid arthritis controlled with weekly methotrexate without recent exposure to corticosteroids or tumor necrosis factor-alpha antagonists. Ten days before the current illness, she experienced a 3-day, self-limited episode of fever, vomiting, and diarrhea. The day of admission, her family noted the abrupt onset of bizarre behavior. She began attempting to rearrange furniture and shouting obscenities, which progressed into incoherent speech. After witnessing a fall without head strike, her family brought her to the hospital.

At the time of admission, she was confused. Her temperature was 39.3°C. She had nuchal rigidity and photophobia without focal neurological findings. The peripheral leukocyte count was 15,600 cells/mm^3 (79% neutrophils, 5% bands, and 14% lymphocytes). A noncontrast computed tomography (CT) examination of the head was unremarkable. Cerebrospinal fluid (CSF) contained 545 leukocytes/mm^3 (77% neutrophils), a protein level of 209 mg/dl, and a glucose level of 62 mg/dl (serum glucose, 128 mg/dl). Gram stain showed few leukocytes but no organisms.

After obtaining a history of oro-labial swelling following penicillin, the patient was given intravenous vancomycin, moxifloxacin, and TMP-SMX (15 mg/kg of body weight TMP daily in four divided doses). Dexamethasone and acyclovir were also administered for the first 48 h. After *L. monocytogenes* was isolated from the CSF, treatment was continued with TMP-SMX alone. Within 4 days she was afebrile, alert, and oriented and no longer had nuchal rigidity. In face of the rapid clinical response and with the availability of reliable family members to ensure adherence, the patient was discharged on hospital day 5 on oral TMP-SMX (three single-strength tablets every 6 h) to complete 3 weeks of treatment. She was completely well at an office visit 1 week after completing therapy and by phone interview 6 weeks after completion.

No controlled trials exist to establish a drug of choice, mode of delivery, or optimal duration of therapy for CNS listeriosis. Ampicillin is the preferred and most widely used agent; many authorities recommend the addition of an aminoglycoside to ampicillin for at least the first week in treatment of CNS infection (4). For patients with penicillin hypersensitivity, TMP-SMX is the treatment of choice.

Comparable levels of TMP-SMX are attained in the CSF with oral and intravenous administration (1). There have been several reported cases of *L. monocytogenes* meningitis treated successfully with oral TMP-SMX or TMP alone (Table 1). Together with this report, they suggest that oral TMP-SMX can be an efficacious and inexpensive therapeutic option for patients who demonstrate rapid clinical response to intravenous therapy and in whom good adherence is expected.

There are no potential conflicts of interest for any of the authors of this report.

TABLE 1. Cases of *L. monocytogenes* meningitis treated with oral TMP-SMX

Yr (reference)	Age (yr)/sex	Underlying illness	Total daily TMP-SMX dose (mg of TMP)[a]
1973 (3)	68/male	None	480 mg p.o. for 1 day, followed by 320 mg p.o. for 24 days
1982 (5)	53/female	Systemic lupus, prednisone therapy	720 mg p.o. for 21 days
1985 (2)	73/male	Resected renal cancer, prostatectomy, chronic kidney disease	250 mg/m^2 BSA i.v. for 1 day, followed by 300 mg/m^2 BSA i.v. for 15 days and then p.o. equivalent for 21 days
1988 (1)	13/male	Osteosarcoma, right lung lobectomy	288 mg i.v. for 10 days, followed by 300 mg TMP without SMX p.o. for 14 days
2009 (present case)	64/female	Rheumatoid arthritis, methotrexate therapy	960 mg i.v. for 5 days, followed by 960 mg p.o. for 16 days

[a] p.o., by mouth; BSA, body surface area; i.v., intravenous.

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▽ Published ahead of print on 22 March 2010.