J Exp Clin Med 2014;6(2):68–69

Contents lists available at ScienceDirect

Journal of Experimental and Clinical Medicine

journal homepage: http://www.jecm-online.com

LETTER TO THE EDITOR

Severe *Mycoplasma pneumoniae* Infection Complicating Septic Encephalopathy and Seizure Attacks

Septic encephalopathy and seizure attacks due to *Mycoplasma pneumoniae* infection are rare.[1] Here we report a case of a male patient with community-acquired pneumonia (CAP), initially presenting himself with seizures and multiple organ dysfunction syndrome. The diagnosis of *M. pneumoniae* was confirmed by serologic test, and the outcome was favorable after he received levofloxacin treatment.

A previously healthy 28-year-old male patient had fever, headache, myalgia, and cough for 5 days. At the emergency department, he suffered from consciousness disturbance and seizure attacks. The chest X-ray showed the signs of interstitial infiltration of the bilateral lower lobes of the lungs (Figure 1A). A brain computed tomography scan showed edematous changes of the brain tissue (Figure 1B). Initial laboratory studies showed a white blood cell count of 8.9×10^9/L with neutrophils 62% and lymphocytes 33%, hemoglobin 12.6 g/dL, and platelets 56×10^9/L. The total bilirubin was 2.8 g/dL, alanine aminotransferase 107 U/L. Aspartate aminotransferase 122 U/L, C-reactive protein 13.8 mg/dL, creatinine 4.7 mg/dL, and blood urea nitrogen 57 mg/dL. Lumbar puncture yielded clear cerebrospinal fluid (CSF) with an opening pressure of 220 mmH_2O. CSF showed white blood cell count 12×10^6/L (9% lymphocytes), red blood cell 3×10^6/L, protein 108 mg/dL, and glucose 96 mg/dL, whereas the simultaneous blood glucose was 120 mg/dL. Blood and CSF were both sterile in bacterial culture, but the serologic test of *M. pneumoniae* immunoglobulin M was positive in both CSF and serum blood. The patient received combination therapy with penicillin and levofloxacin initially for CAP, and phenytoin for seizure attacks. Penicillin was gradually tapered off and stopped to leave only levofloxacin monotherapy for an extra 3 days, and he continued to recover well without having any neurologic symptoms after a 14-day course of this antibiotic treatment.

There are sporadic reports of *M. pneumoniae*-associated central nervous system complications, including aseptic meningitis, encephalitis, acute ischemic syndrome, and infarction.[1–4] Among the etiologic agents of CAP, *Streptococcus pneumoniae* is the most common, followed by atypical pathogens such as *M. pneumoniae*, legionella, and virus.[1] Pourakbari et al[5] reported that five patients with lethal toxic encephalopathy due to bacterial infection with shigellosis, and that brain edema may be a prediction factor for fatal outcome. Early recognition of encephalopathy and prevention of brain edema may improve patient's outcome.

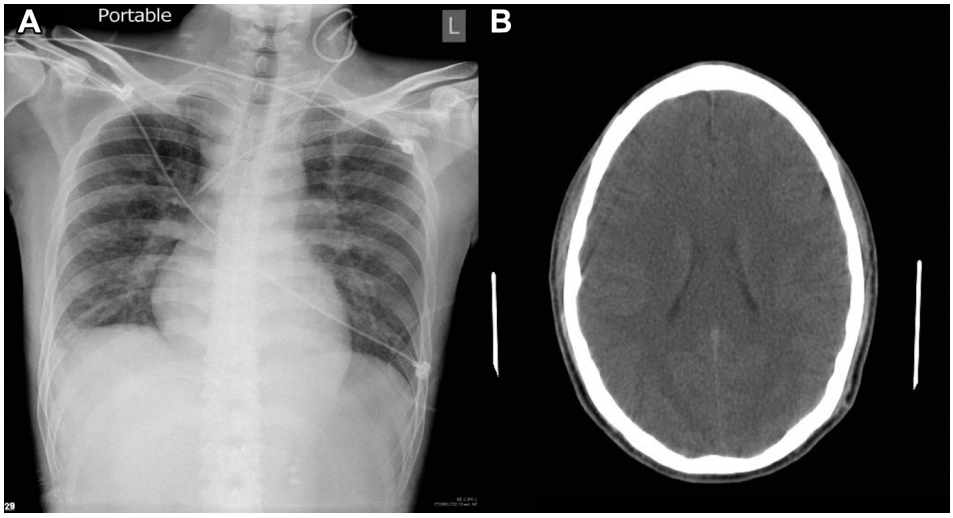

Figure 1 (A) Chest X-ray showing signs of interstitial infiltration of bilateral lower lobes of lungs. (B) Brain computed tomography scan showing edematous change of brain tissue.

Conflicts of interest: All contributing authors declare no conflicts of interest.

http://dx.doi.org/10.1016/j.jecm.2014.02.004

In summary, *M. pneumoniae* should be considered as a potential pathogen of CAP in young adult patients with seizures and respiratory symptoms. Appropriate antibiotic therapy including macrolides, fluoroquinolones, or doxycycline should be prescribed for severe septic syndrome in CAP.

References

1. Ficko C, Andriamanantena D, Mangouka L, Bigaillon C, Flateau C, Mérens A, Rapp C. *Mycoplasma pneumoniae* encephalitis successfully treated by levofloxacin. *Rev Med Interne*. in press [in French].
2. Kim GH, Seo WH, Je BK, Eun SH. *Mycoplasma pneumoniae* associated stroke in a 3-year-old girl. *Korean J Pediatr* 2013;**56**:411–5.
3. Leonardi S, Pavone P, Rotolo N, La Rosa M. Stroke in two children with *Mycoplasma pneumoniae* infection: a causal or casual relationship? *Pediatr Infect Dis J* 2005;**24**:843–5.
4. Lee CY, Huang YY, Huang FL, Liu FC, Chen PY. *Mycoplasma pneumoniae*-associated cerebral infarction in a child. *J Trop Pediatr* 2009;**55**:272–5.
5. Pourakbari B, Mamishi S, Kohan L, Sedighi L, Mahmoudi S, Fattahi F, Teymuri M. Lethal toxic encephalopathy due to childhood shigellosis or Ekiri syndrome. *J Microbiol Immunol Infect* 2012;**45**:147–50.

Wen-Sen Lee
Division of Infectious Diseases, Department of Internal Medicine, Wan Fang Medical Center, Taipei, Taiwan

Department of Internal Medicine, School of Medicine, Taipei Medical University, Taipei, Taiwan

Tsong-Yih Ou, Fu-Lun Chen
Division of Infectious Diseases, Department of Internal Medicine, Wan Fang Medical Center, Taipei, Taiwan

Chin-Wang Hsu, Shio-Shin Jean*
Department of Emergency, Wan Fang Medical Center and School of Medicine, Taipei Medical University, Taipei, Taiwan

* Corresponding author. Shio-Shin Jean, #111, Section 3, Hsing Long Road, Taipei 116, Taiwan.
E-mail: S.-S. Jean <89425@wanfang.gov.tw>.

Dec 2, 2013
Available online 26 March 2014