ERTAPENEM ASSOCIATED WITH GENERALIZED TONIC-CLONIC SEIZURE IN A PATIENT WITH CHRONIC KIDNEY DISEASE

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Abstract

Seizures have been associated with meropenem and imipenem, but ertapenem induced seizure was scarce. Here we describe one patient with chronic kidney disease developed seizure after treating with ertapenem for five doses and reviewed previous reports in the English literature. The abnormalities of center nervous system (CNS) and renal function were the most common underlying diseases among these patients. In conclusion, ertapenem should be considered as one of possible etiologies of seizure during its administration, especially in elder patients with CNS disorder or renal insufficiency.

Key words: Ertapenem, Seizure, Carbapenem

Ertapenem is a 1-ß-methyl carbapenem and has excellent activity against many gram-positive and gram-negative aerobic, facultative, and anaerobic bacteria.¹ In the following clinical entities: intra-abdominal infection, skin and soft tissue infection, community acquired infection, acute pelvic infection and complicated urinary tract infection, ertapenem is comparable with other antimicrobials that are used routinely in the treatment of the infections.¹ As a member of carbapenem, ertapenem associated seizure are rarely reported.²-⁶ Here we describe one patient with chronic kidney disease developed seizure after treating with ertapenem for five doses.

A 87-year-old female with a history of hypertension, peptic ulcer disease and chronic kidney disease resided at a long-term care facility for half a year. She had no history of seizure or neurologic disease. On January 7, 2009, she presented with sudden onset of fever, dysuria and frequency. There was no cough, sputum, vomiting, abdominal pain and diarrhea. Her vital signs were temperature of 39°C, pulse rate of 110/min, respiratory rate of 22/min, and blood pressure of 115/63 mm Hg. Physical examinations were unremarkable except mild suprapubic tenderness. The white blood count was 1.82 x 10⁹/l with neutrophil predominance (77.1%), and urinary analysis showed pyuria and bactiuria. Antibiotic treatment with oral cephalalexin was given for urinary tract infection after collection of urine culture. Three days later, culture of urine grew extended-spectrum-ß-lactamase (ESBL)- producing Escherichia coli, but blood culture did not yield any bacteria. The antibiotics were shifted to intravenous ertapenem (1000 mg every day). However, after five days of therapy, she developed generalized tonic-clonic seizures (GTCS).

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