Blood Infection by Mycobacterium Chelonae in a Uremic Diabetes Patient

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This regards a rare case of blood infection with a nontuberculous mycobacterium, Mycobacterium chelonae. A 50-year-old woman with uremic diabetes presented symptoms of aversion to cold, trembling and high fever at two months after an implant surgery of arteriovenous fistula. Multiple blood cultures all indicated positive results of bacterial infections. After subculture, a Kinyoun-stained smear revealed that the infected bacteria are acid-fast mycobacteria. Results of polymerase chain reaction coupled restriction fragment length polymorphism analysis concluded the M. chelonae infection. Since M. chelonae is fast growing and usually has multiple drug resistance, laboratories in hospitals should establish and provide rapid diagnostic methods for such nontuberculous mycobacterium infections.

Key words: Mycobacterium chelonae, Blood Infection, uremic diabetes patient, PCR-RFLP

Introduction

Mycobacterium chelonae is a fast growing species of saprogenic mycobacterium widely seen in water and soil [1, 2]. It is also one of the most common opportunistic infectious pathogens within hospitals and has the potential to cause various disease symptoms clinically [3-7]. Cuticles and soft tissues are the most likely locations to identify M. chelonae infections but rare blood infection reported [8, 9]. Furthermore, the most common NTM isolated in Shanghai were M. chelonae (26.7%), followed by M. fortuitum (15.4%) and M. terrae (6.9%) [10]. In Taiwan, an increase tendency to isolate M. chelonae too, but after M. avium-intracellulare complex and M. abscessus [11]. Since this bacterium possesses drug resistance against many antibiotics, medication treatments should be prescribed according to the result of the drug sensitivity test [12]. These bacteremia, therefore, need to be timely and accurately diagnosed to avoid prolongation of diseases and permanent damages to patients.

Case report

A 50-year-old woman, diagnosed with diabetes 10 years ago, showed some diabetic mellitus (DM) complications in the past few years, including DM-induced cardiovascular disorder, DM retinopathy and nephropathy. She was treated and monitored in the nephrology department at Chang Gung Memorial Hospital. Her blood creatinine reached 2.4mg/dl at the time with noticeable albuminuria. Her renal function was deteriorated during the course of monitoring treatment. She received naive arteriovenous fistula surgery in order to perform hemodialysis on November 24, 2006. In February 2007, the patient started to experience uremic symptoms such as nausea, vomiting and loss of appetite, and she started to receive regular hemodialysis treatment 3 times a week. The arteriovenous fistula in the patient’s body was obstructed and didn’t function normally due to repeated use. To perform hemodialysis successfully, she received arteriovenous graft (AVG) creation in her right forearm on March 13, 2007.