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Iatrogenic Injection Abscess Due To Mycobacterium Abscessus: A Rare Case Report.

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Abstract

Injection abscess is an iatrogenic infection occurring as an isolated case or as an outbreak. These infections occurs following tattooing, injection, vaccination and implants. Pathogens such as *Klebsiella, E. coli, Pseudomonas and Staph aureus*, are the common causative agents. Some unusual organisms such as Mycobacterium, especially the Rapidly growing Non-tuberculus mycobacterium (NTM) may cause the injection abscess. We report a case of two year old child who presented with an abscess following an intramuscular injection and was confirmed as *Mycobacterium abscessus* which was treated uneventfully.

Keywords: Mycobacterium abscessus, NTM

Introduction

Injection abscess is an iatrogenic infection occurring as an isolated case or as an outbreak [1]. These infections occurs following tattooing, injection vaccination and implants [2]. Pathogens such as *Klebsiella, E. coli, Pseudomona* and *Staph aureus*, are common causative agents. Some unusual organism such as Mycobacterium, specially the Rapidly growing Nontuberculus mycobacterium (NTM) may cause the injection abscess [1]. These lesions different from tuberculosis as these organism are resistant to most of the conventional anti-tubercular drug [2]. Most of NTM species can be recovered from environmental samples like soil, water, animals and birds and are acquired by contact with the environment [2]. Early identification of this organism and treatment is essential to avoid prolong morbidity.

Case Report

A 2years old male child presented with mild fever and swelling at the lateral aspect of mid right thigh since 14days. History revealed that he was routinely vaccinated with booster dose of DPT vaccine 15days back in the government health centre. After one week of vaccination he developed mild fever and small swelling at the site of DPT injection which gradually increase in size. Patient was refered to paediatric surgery where they examine and sent for soft tissue USG, which showed irregular thick walled collection measuring approximately 2.6 x 0.7x105 cm and the volume of 1.5cc. Patient underwent incision

and drainage and around 2ml of pus was sent to microbiology lab for culture and sensitivity. Gram stain showed numerous pus cells and no organisms. Routine culture for aerobic and anaerobic organism's yielded no growth. Ziehl-Neelsen's (ZN) stain for AFB showed Acid Fast bacilli. Culture on Lowenstein Jensen (LJ) medium showed non-pigmented colonies by fifth day which was presumptively identified as a rapidly growing NTM. The same organism was isolated from the second sample collected after five days. After 10 days of I & D right inguinal lymphadenopathy was seen with the collection of pus. Repeat incision and drainage was done under GA and arod 2ml of pus was sent for molecular study and genotyping along with the pure culture from LJ media to CM assay (Hans lab science Germany),this confirmed the identification of the organism to be *Mycobacterium abscessus*. which was sensitive to Clarithromycin and Amikacin. Patient was started with amikacin and clarithromycin and recovered uneventfully after six month of long treatment.

Discussion

Mycobacterium abscessus was formerly known as *Mycobacterium chelonae* and is classified as Runyon group IV. However, it was only in 1992, after its separation from *Mycobacterium chelonae* group, that *M. abscessus* acquired the recognition that it is an important human pathogen responsible for a wide spectrum of soft tissue infections, pulmonary infections, and disseminated disease in immunocompromised patients [3,4]. *Mycobacterium abscessus* is rapid growing NTM [1]. Among the rapidly growing mycobacterium *M.fortuitum, M.chelonei and Mycobacterium abscessus* is the only organism associated with human diseases [1]. Together these organisms constitute approximately 6% of the pathogenic mycobacterium isolate [5]. Abscess formation at the site of puncture wounds, or open traumatic injuries or fractures are most often due to rapidly growing mycobacterium species like *M.fortuitum, M.chelonei* and *M.abscessus,* etc [5]. Thus, nontuberculous *Mycobacteria* play an increasingly important role in human disease and moving to higher prevalence of antibiotic resistance and immunodeficiency [2]. These NTM organisms are probably transmitted by aerosol route or via soil, dust, water or by ingestion or by skin inoculation, whereas its spread between persons is rare [1]. Diagnosis is confirmed by culture of aspirate and biopsy specimen [1]. Infection by these organisms leads to delayed wound healing with chronic serous discharge and requires prolonged course of expensive antibiotics [1]. Mycobacterium other than tuberculosis identification by polymerase chain reaction (PCR) is the criterion for the diagnosis of *M. abscessus* infection [4]. Treatment of *M. abscessus* infections depends on antimicrobial sensitivities as well as the clinical manifestation [4]. Antibiotic treatments including amikacin, doxycycline, imipenem, sulphonamides, cefoxitin and clarithromycin should be started [6]. Combination therapy is recommended for at least 6 months [7]. Follow-up of treatment outcome by assessing liver and kidney function is necessary as a course of therapy [4].

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