A Case Report of Pulmonary Infection with Mycobacterium Surga

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Abstract

Background: Mycobacterium includes Mycobacterium tuberculosis complex, Mycobacterium leprae complex and non-tuberculous mycobacteria (NTM). Mycobacterium surga (M. Sur) is a type of NTM, belonging to group II dark chromogenic bacteria. It has a low clinical isolation rate and is a rare kind of Mycobacterium which can cause lung infection or skin infection. *Case presentation*: This paper reports a case of a 53-year-old male patient who was repeatedly hospitalized in other hospitals and in our hospital for cough and expectoration for one year, with unsatisfactory treatment effect. One month ago, the chest CT of the patient taken in our hospital showed secondary pulmonary tuberculosis with cavities in both lungs with cavities, bronchiectasis, fibrosis and hardening in the upper lobes of both lungs (Figure 1). The patient's blood IGRA was positive. The acid-fast bacilli smear in the sputum was positive (++), and both tuberculosis/non tuberculosis and GeneXpert technology tested negative for Mycobacterium tuberculosis nucleic acid in sputum. Hence, NTM infection was suspected. High-throughput targeted sequencing (mNGS) of patient’s sputum sample was performed to confirm the infection of M. Sur. After treatment with rifampicin, ethambutol and azithromycin, the patient's symptoms improved and the patient was discharged. The patient had suffered from "pulmonary tuberculosis" 10 years ago and reported that anti-tuberculosis treatment was discontinued after 6+ months. *Conclusion*: M. sur is a relatively rare kind of Mycobacterium. The clinical manifestations of pulmonary infection caused by M. Sur are similar to those of pulmonary tuberculosis, and it is easy to be misdiagnosed as pulmonary tuberculosis. Therefore, when the acid-fast bacilli smear is positive, it is necessary to further identify whether it is tuberculosis or non-tuberculous mycobacterial infection. Early implementation of mNGS technology facilitates prompt detection of pathogens, and guides clinical treatment and potentially enhancing patient prognosis, it is an effective method for diagnose NTM disease. Treatment with 3-4 anti-TB drugs is usually recommended for 4-48 months.

Keywords

Nontuberculous Mycobacteria (NTM), Mycobacterium Surga, mNGS