TWO CASES OF MYCOBACTERIUM FORTUITUM REPORTED AT TERTIARY CARE CENTER FROM NAVI MUMBAI, MAHARASHTRA, INDIA.

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ABSTRACT

Mycobacterium fortuitum has been implicated in surgical site infection, implanted device associated infections and injection site abscesses. Two cases of Mycobacterium fortuitum infections one with post operative umbilical hernia abscess and other with inguinal swelling and abscess are described as per our knowledge for the first time from Navi Mumbai, Maharashtra.

Key Words: Mycobacterium fortuitum, Real time PCR, Post operative, Trauma.

INTRODUCTION

Outbreaks and cases of health care associated infections caused by atypical Mycobacteria have been reported now and then since the first case was described in 1938. [1] Atypical Mycobacteria, common environmental inhabitants have been known to easily contaminate solutions and disinfectants under appropriate circumstances and cause diseases. These saprophytes have increasingly being found to be associated with nosocomial infections establishing themselves as opportunistic and deadly pathogens at times as well.[2] About a one third of the Non-tuberculous mycobacteria species identified are found to be associated with human diseases. [2] Surgical site infection, implanted device associated infections, injection site abscesses are some of the often encountered complications. [3] The current case report addresses two incidences of Mycobacterium fortuitum infections in a tertiary care center of Navi Mumbai, Maharashtra.
Case1
A 49-year-old hypertensive male with diabetes type II visited the surgery outpatient department of the tertiary care center. He did not undergo surgery in the center but came in for the post operative complications. The healing stitch site was infected with fluid oozing out of it. Aspirated fluid from non-healing wound was received in the Central Research Laboratory for TB PCR in June 2013. DNA was extracted using spin columns from Qiagen according to the manufacturer's insert. Real-time PCR (LC480, Light Cycler II) was performed on the extracted DNA by three color hydrolysis probe format. The channels selected were FAM(465-510), VIC/HEX(533-580), Cy5(618-660). Amplification was observed only in Cy5 channel which can be interpreted as Mycobacterium other than Tubercle bacilli (MOTT). The PCR positive (MOTT) sample was further subjected to culture for identification up to the species level. After the growth was observed, Ziehl-Neelsen stain of the secondary smear was performed and biochemically identified as *Mycobacterium fortuitum*.

Case2
A 16-year-old female came to the out patient department of surgery with painless inguinal swelling. She complained of pain since six months and on and off low grade fever. She had no history of weight loss. An aspirate from the mass was received in the Central Research Laboratory for TB PCR in December 2013. The sample was processed as in case 1. The real-time PCR showed amplification in both FAM and Cy5 channels in this case indicating the presence of MOTT. The Lowenstein Jensen media showed growth in two to four days. Smear of the isolate was found to be positive for Acid Fast Bacilli. The isolate which was presumed to be rapidly growing *Mycobacterium* by its rate of growth was confirmed to be *Mycobacterium fortuitum* with the help of traditional biochemical methods.

Image1: Ziehl Neelsen Staining of the Colonies.
DISCUSSION

Non-tuberculous mycobacteria (NTM) has always been ubiquitously present in the environment, but the incidence of their colonization and causing disease in humans is not yet completely understood. \(^2,4\) Reports of NTM causing infection after trauma or undergoing surgery, liposuction, silicon injection, pedicures and subcutaneous injections has been seen over the last few years. \(^5,6,7,8,9,10,11\) NTM in health care facilities are seen more, probably due to inadequate temperature of sterilization or concentration of sterilization agents. They can make their way into the wound site through water, dressing matter, hospital instruments, or any other like source harboring them.\(^12\) In almost all cases of nosocomial infections caused by NTM, poor sterilization process of solutions, surgical instruments and medical devices were found to be the causative factors.\(^12\)

\textit{Mycobacterium fortuitum-chelonei} complex categorized as \textit{Rapid Growers}, group IV of Runyon’s classification, though commonly associated with cutaneous diseases, disseminated infections are seen as well.\(^13\)
Few cases of *Mycobacterium fortuitum* infection are reported from India due to lack of suspicion of its presence among clinicians and microbiologists.\[5,13,14,15]\ Any non healing or delayed healing wound not responding to antibiotics for acute pyogenic infection should consider of NTM, both from diagnostic and therapeutic point of views. Timely and efficient management of patients could be sought by high index of clinical suspicion followed by microbiological evaluation.

REFERENCES
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