Introduction

Mycobacterium immunogenum is a rapidly growing mycobacterium which closely resembles M. abscessus and M. chelonae, was first described in 2001 by Wilson et al. M. Immunogenum have been associated with nosocomial waterborne outbreaks and pseudo outbreaks.

M. Immunogenum has been frequently recovered from metal-working fluid and implicated in cases of hypersensitivities pneumonitis among metal workers. In addition, it has also been reported to cause cutaneous infection, keratitis, catheter related infection, septic joint and sepsis. ROM have increasingly been reported to cause disease in the transplant population. M. Immunogenum, however, is infrequently described in transplant recipients, and the true incidence of infection with this organism remains unknown. The pathogenicity and clinical significance of M. Immunogenum is therefore controversial.

Optimal therapy for M. Immunogenum infection has not been established. Treatments in case reports differed in the combinations of antimicrobials used based on their susceptibility and duration of therapy varied from 6 to 12 months. Based on susceptibility data from case reports M. Immunogenum is generally susceptible to macrolides and fluoroquinolones.

The pathogenicity and clinical significance of M. Immunogenum is controversial since only a few cases have been reported in the literature. Additional information is still needed to gain insight into the clinical significance of this organism.

Objectives and Methods

We retrospectively reviewed 29 patients with cultures growing M. Immunogenum between November 2011 and June 2014 at St. Paul University Hospital (UTSW Medical Center). The primary aim was to determine its clinical significance and prevalence. Our aim was also to determine clinical outcomes of these patients (morbidity, mortality, length of hospital stay, and readmission), risk factors, comorbid conditions, antibiotic treatment and duration.

Results

We identified 29 patients with Mycobacterium Immunogenum growing from their cultures. 23 patients had positive bronchoscopic specimen and 21 of these patients had a positive bronchial specimen on repeat bronchoscopy.

• Only three patients were considered clinically significant requiring treatment meaning most of the isolates were considered nonpathogenic or contaminants.

• One of the patients who were treated survived.

• Seven out of 29 isolates were tested for susceptibility; all of them were sensitive to Amikacin & Tigecycline and all 7 isolates were resistant to Cefotaxine Ciprofloxacin Doxycycline Moxifloxacin Tobra mycin & Sulfamethoxazole/Trimethoprim while sensitivity for Clarithromycin and Levofloxacin was variable.

• Patients had high all-cause mortality and hospital readmission rates although this was attributable to other causes including infections from other pathogens like bacterial pneumonia, rejection of transplanted lung, or exacerbation of their underlying pulmonary disease. No deaths were directly attributed to this pathogen despite patients not receiving treatment.

• The organism is rarely encountered, is a relatively frequent cause of pseudo-epidemics that are related to bronchoscopies, that although infection occurs it infrequently causes human disease and that treatment is potentially toxic but may be necessary to resolve the disease process.

• There was a pseudo epidemic of M. Immunogenum and M. Aureuspense during April-May 2014 at our institution that was traced to ice-machine water used to lower the temperature of saline that was instilled into bronchoscopic ports to achieve hemostasis.

Conclusions

Since this was a small retrospective case series, it would be uncertain to determine whether the presence of M. Immunogenum in the cultures of these patients contributed to their overall clinical picture or whether the underlying conditions increased risk for acquiring M. Immunogenum.

Limitations


Disclosure

All authors of this presentation have no disclosures concerning possible financial or personal relationships with commercial entities. Funding via Goddess Family Scholars Clinical Care Program.