

Nontuberculous mycobacteria in an Adult Cystic Fibrosis Unit in Madrid

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BACKGROUND

Cystic fibrosis (CF) is the most common life-threatening genetic disease in Caucasians. It affects many organs, especially the lungs and digestive system, by clogging them with thick and sticky mucus.

Nontuberculous mycobacteria (NTM) are ubiquitous environmental organisms and patients with CF have a higher risk of developing NTM pulmonary infections compared with the general population.

The aim of this study was to determine the prevalence and relative frequency of NTM isolated from respiratory specimens at the adult CF unit in the Hospital La Princesa in Madrid for a period of five years (2010 - 2014).



MATERIALS AND METHODS

During the study period (from 1 January 2010 to 31 December 2014) 91 patients were attended at the Adult CF Unit of Hospital La Princesa in Madrid.

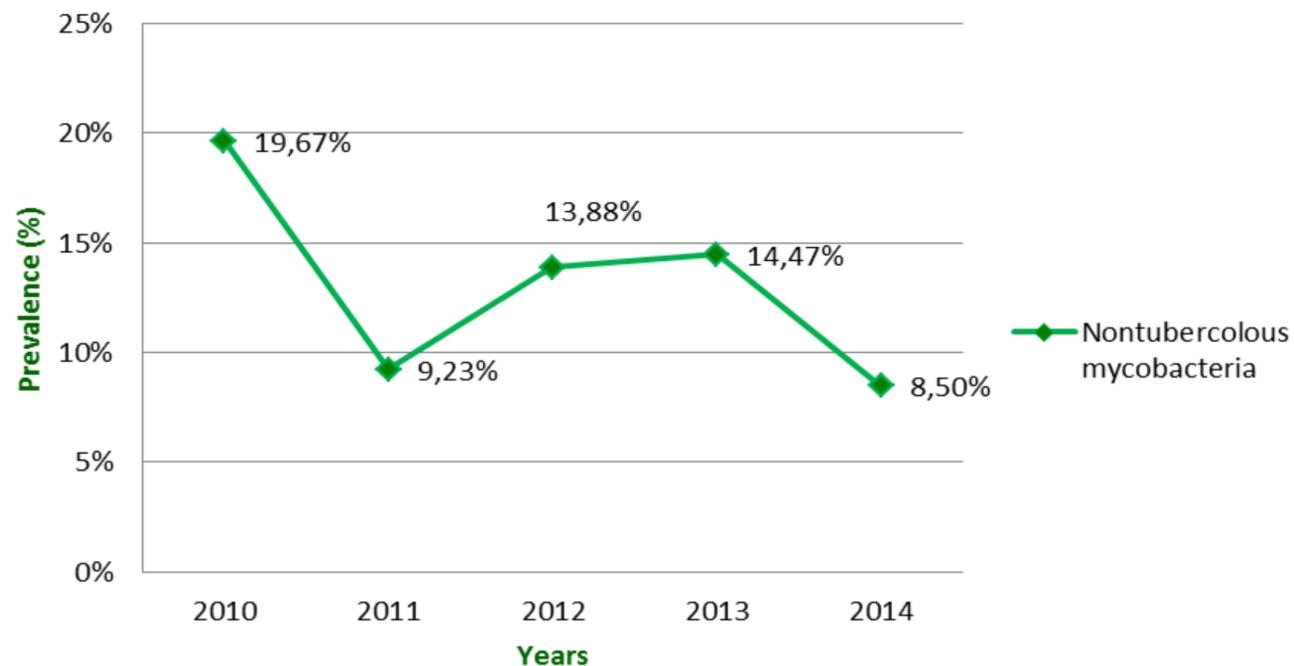
In the first place sputum samples were decontaminated using NaOH- N-acetyl-L-cysteine-oxalic acid and inoculated into a liquid medium called Mycobacteria Growth Indicator Tube (MGIT). All specimens were incubated at 37°C in the BACTEC MGIT 960 system (Becton–Dickinson) for 8 weeks. Detection of growth was confirmed by Ziehl-Neelsen staining. After confirmation subcultures were made to Coletsos medium. Finally, isolates were identified using MALDI-TOF (Bruker-Daltonics).

For annual prevalence study patients with at least one isolation of NTM were considered. Absolute and relative frequencies were calculated considering only one isolate per patient per year.



RESULTS

Prevalence of Nontuberculous mycobacteria



Nontuberculous mycobacteria

Absolute frequency

Relative frequency (%)

<i>Mycobacterium avium</i>	27	56.25%
<i>Mycobacterium abscessus</i>	12	25%
<i>Mycobacterium lentiflavum</i>	4	8.33%
<i>Mycobacterium chelonae</i>	2	4.16%
<i>Mycobacterium intracellulare</i>	2	4.16%
<i>Mycobacterium gordonae</i>	1	2.08%

CONCLUSIONS

The prevalence of NTM in our CF unit has decreased by more than 50% in only five years. Decreasing could be caused by overuse of some antibiotics such as macrolides (especially azithromycin) and quinolones among our CF patients.

Mycobacterium avium is the most common NTM isolated, followed by *Mycobacterium abscessus*. These two species comprise more than 80% of all NTM isolates