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Low frequency of *Mycobacterium kansasii* isolates in a hospital in Madrid during a seven-year period

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Background: Non-tuberculous mycobacteria (NTM) include all mycobacteria except *Mycobacterium tuberculosis* complex and *M. leprae*. They behave as opportunistic pathogens acquired from the environment.

Mycobacterium kansasii is a NTM which, in some places in the world, is the second NTM in prevalence. Pulmonary disease is the most frequent symptom, although extrapulmonary diseases have been described too. Sometimes it can cause a clinical history similar to tuberculosis.

The objective of this study is to analyze the isolates of *M. kansasii* during 7 years.

Material/methods: During the period of study (from March 2009 to March 2016), samples received in our mycobacterial laboratory were decontaminated using NaOH-N-acetyl-L-cysteine-oxalic acid, inoculated in the Mycobacteria Growth Indicator Tube (MGIT) medium and incubated for 2 months at 37°C in Bactec™ MGIT™ 960 system (Becton-Dickinson). Auramine staining was performed for all samples. For positive samples, Ziehl-Neelsen staining was performed. Final identification was realized with DNA probes before 2013, and after this date with Maldi-Tof mass spectrometry (Bruker-Daltonics) in MGIT or Coletsos medium.

The charts were reviewed to get clinical data.

Results: During the study period, 19 isolates of *M. kansasii* were obtained, from 14 patients (older 18 years old). All samples except one (pulmonary biopsy) were sputum.

Among NTM, *M. kansasii* represent the 1% of all isolates, after *M. avium complex* (MAC) (47.6%), *M. abscessus* (14.5%), *M. lentiflavum* (7.4%), *M. goodii* (7.0%) and *M. xenopi* (2.2%), *M. chelonae* (2.0%), *M. mucogenicum* (1.1%), *M. mageritense* (1.1%).

Among the risk factors, 13 patients presented pulmonary disease (5 chronic obstructive pulmonary diseases, 3 cystic fibrosis, 2 allergic bronchopulmonary aspergillosis, 1 bronchiectasis, 1 pulmonary lymphoma and 1 pulmonary fibrosis). The other one was smoker, obese and had type 2 diabetes mellitus.

The microorganism was isolated once except in one patient (HIV positive) where it was isolated repeatedly.

There was no evidence of treatment for *M. kansasii* in the charts for all patients except for HIV infected patient, who received treatment with isoniazide, ethambutol and ciprofloxacin, and after a long period of treatment all sputum cultures were negative for *M. kansasii*.

Conclusions: Although some geographical series set *M. kansasii* as a frequent isolate, with prevalence situated after MAC, in our study this NTM is not very frequent, representing just 1% of all NTM isolates.

All patients had risk pulmonary factors to be colonized by *M. kansasii*, but only one had repeated isolations of this NTM, probably due to HIV infection, as has been previously documented. Only this patient was treated. Therefore, the clinical meaning of the rest of isolates is uncertain.

To conclude, isolates of *M. kansasii* have to be interpreted attending to clinical, radiological and microbiological evidences.