

عنوان مقاله:

Isolation and characterization of nontuberculous mycobacteria existing in Isfahan hospital water supplies by Phenotypical and molecular methods

محل انتشار:

نخستین همایش ملی یافته های نوین میکروبیولوژی (سال: 1394)

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خلاصه مقاله:

Background and aims. The nontuberculous mycobacteria are of crucial importance in medicine due to their undisputable impact on human health. Among ecosystem factors hospital water plays an important role as the inhabitant of mycobacteria and transmission of opportunistic pathogens to a human. Therefore, the aim of the current study was to assess the frequency of mycobacteria in hospital water and molecular characterization of them. **Materials and methods.** A total of 85 water samples were collected from the hospital water resources in Isfahan, They were then subcultured onto Lowenstein Jensen media and incubated at various temperatures and inspected weekly for the appearance of Mycobacterium-like colonies. A set of phenotypic tests were then applied to identify the isolates based on Runyon classification. the amplification and direct sequence analysis of almost full length of 16S rDNA was carried out as described previously. The obtained sequences were aligned manually with all existing sequences of the mycobacteria retrieved. **Results.** 40 isolates of mycobacteria using conventional phenotypic methods and molecular techniques, including hsp65 and 16s rDNA gene sequences were identified. Of 40 mycobacteria isolated 15, 11 and 14 belonged to Runyon s groups of I, II and IV respectively. Identified isolate include : M. phocaicum, M. setense, M. gordonea, M. abcesuss, M. austroafricanum, M. simiae, M. spp nov, M, lentiflavum, M, massiliense, M. frederiksbergense fred M. canariesense and M. novocastrense. **Conclusion.** The results of the current study showed that a noticeable rate of water resources in Isfahan hospitals are contaminated with mycobacteria which could be considered as a potential hazardous source of infection for the patients with immunocompromised immune systems such as the aged, the children and the patients with immunodeficiency conditions. Thus requires fast methods with high accuracy in order to identify the pollution sources in hospital

کلمات کلیدی:

Nontuberculous mycobacteria, hospital water, 16SrRNA sequencing

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