

Joint Event

Public Health, Women's Health, Nursing and Hospital Management

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Mycobacterium avium paratuberculosis persistence in drinking and untreated water of Porto area in Portugal ... A public health issue?

Mycobacterium avium subsp paratuberculosis (MAP) has been implicated in the development of inflammatory bowel disease (IBD) and colorectal cancer. Portugal has a high prevalence of IBD and Porto is one of the Portuguese districts with higher IBD prevalence.

Our goal was to assess MAP contamination in drinking and domestic untreated water sources in Porto geographical area, since water may be an important contaminating source of MAP for humans.

One liter of public drinking water and/or a domestic untreated water source were collected at different locations in Porto area in early Autumn. Bios were also collected by swabbing tap inner surfaces with a sterile cotton swab. A second collection of domestic untreated water was performed during winter rains, in early February. Water samples were filtered and DNA was extracted from both water filters and biofilm suspensions using specific commercial kits. MAP contamination was evaluated through a IS900-based nested PCR assay.

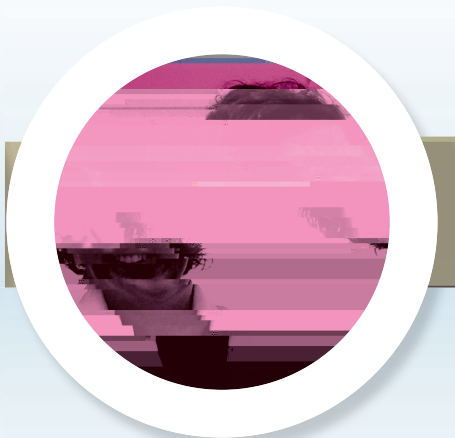
Drinking water samples showed higher MAP contamination than domestic water collected in Autumn. In February, MAP detection significantly increased in domestic water. MAP DNA was detected at a higher frequency in tap biofilms than in the corresponding water collected.

Drinking and domestic water may be important sources of MAP contamination in Porto area. The increased MAP detection observed during winter rains in domestic water may reflect soil leaching. Since MAP can resist to water treatment procedures and persist in biofilms, increased microbial surveillance and development of new water treatment methods are most needed to avoid human exposure to this resilient pathobiont.

Biography

Amelia Sarmiento has completed her PhD at the age of 31 years from Universidade do Porto and postdoctoral studies at Instituto de Biologia Molecular e Celular (IBMC-UP), also from Universidade do Porto. She is an Associate Professor at Faculdade de Ciências da Saúde, Universidade Fernando Pessoa at Porto and is a Researcher at both FP-ENAS/CEBIMED (Universidade Fernando Pessoa) and at IBMC/I3S. She has published 12 papers in reputed journals and was a Guest Associated Editor at Frontiers Immunology/Mucosal Immunology Section, hosting a Research Topic entitled "Understanding Crohn's disease: immunity, genes and microbes".

assuncao@ufp.edu.pt

**Amelia Sarmiento**

Universidade Fernando Pessoa, Portugal

Notes: