Parásitos oportunistas y emergentes

Anncaliia algerae: AN EMERGING RISK IN ALCALÁ DE HENARES (SPAIN)?

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ABSTRACT | *RESUMEN*

Anncaliia algerae has emerged as a rare opportunistic pathogen after been related with life-threatening myositis and fatal disseminated microsporidiosis infections among immunocompromised individuals. Although this pathogen primarily affects insects, humans may be exposed through ingestion of contaminated food/water or infection of cornea or tissue wounds with environmental fomites. The aim was to study if *A. algerae* could represent a risk for the population of Alcalá de Henares (Spain) due to their potential presence in urban topsoils, and study factors that may affect to their distribution. 227 topsoil samples were collected in July 2017 as follows: urban (155), industrial (60), public garden in the city centre (12). DNA was extracted from concentrated pellet by disrupting the spores using Fast-Prep for Soil®, followed by purification with QIAquick PCR kit (Qiagen). *A. algerae* was detected in 12 topsoil samples (7 urban, 5 industrial) by PCR using the NALGf2/NALGR1 primers according to previous methodologies. To the best of our knowledge this is the first study reporting the presence of this pathogen in Alcalá's topsoils. A statistical comparison between different sub-zones monitored within the urban (4) and industrial (2) areas according to intercardinal directions did not show differences for the distribution of the spores detected, which would highlight a low-moderate distribution of A. algerae across Alcalá. Moreover, the t-test study performed shown that the physicochemical properties (pH, organic matter content, electric conductivity) and textures (percentages of clay, sand, silt) studied in the collected soils did not have any effect in the presence/absence of these spores, although our results are not definitive due to the limited presence of this pathogen in the studied soils. Our results may support the hypothesis that suggest that there is a wide diversity of microsporidian species present in urban topsoils that remains unknown and may represent a risk.

KEYWORDS: *Anncaliia Algerae, Urban Topsoils*, Detection, Risks, Alcalá De Henares.

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