



Enfermedades Infecciosas y Microbiología Clínica

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Scientific letter

About the new coronavirus: Microbiotourism[☆]



A propósito del nuevo coronavirus: microbioturismo

The emergence of a new virus of the coronavirus genus (2019-nCoV, now SARS-CoV-2)¹ and the consequent health, social and economic alarm, prompts us to analyse a picture of the world in clinical-healthcare terms and to catalogue the current situation under traveller's diseases (TD). Human movements have been associated with the spread of infectious diseases (ID) for centuries; initially by conquest and exploration of new territories and later by trade and migratory movements. The increase in international travel, for work or pleasure, in other words, the phenomenon of globalisation, and tragically, the increasingly present effects of climate change, are circumstances which have made it easier for microorganisms to travel to areas of the planet where they did not previously exist. This has meant that many ID have ceased to be exotic and are real and present here and now.

And that is worrying. By being able to find out the number of ID cases in TD in real time proves that the world is a mass of potential threats. The geographic distribution of certain ID is uneven, and it is essential to make detailed records of the places visited and for how long, and risk exposures during the trip, because in these cases, zoonotic diseases can exceed 75% of ID.² In these situations of high morbidity and mortality rates, an optimal laboratory diagnosis is crucial; a huge contribution has been made by molecular biology techniques (especially multiplex real-time PCR), new massive sequencing techniques and techniques based on mass spectrometry (MALDI-TOF), which avoid delay in diagnosis and help speed up the implementation of both individual and public health control measures.

The unstoppable advances in transport means and information and communication technologies (ICT) have consolidated the growth of international tourism; around 3–4% per year in the first twenty years of the 21st century. According to the World Tourism Organisation (UNWTO), 2019 closed the year with 1.5 billion international tourist arrivals (+4% compared to 2018). Ecotourism, along with exotic and adventure tourism, has shown even more dynamic growth in the last decade (annual growth rate 10–30%).³ For 2020, UNWTO very cautiously forecasts figures similar to 2019, although pending possible significant changes after the intrusion of SARS-CoV-2.

Establishing a differential diagnosis is essential, especially in the case of a traveller with a febrile syndrome. As a recent example, the SARS-CoV-2 infection shows symptoms similar to influenza, although likely with different implications, at least until more detailed confirmation of its pathogenesis and virulence is obtained.⁴ It is also necessary to consider possible co-infections and rare pathogens using efficient diagnostic algorithms.

Immediate, constant mobility and overcrowding in urban areas have increased the distribution area for transmitting vectors, breaking down borders for ID. That, added to the lack of previous

immunity, means a potential risk of spread. It is now possible to reach any point on the planet in less than 36 h, less than the incubation period for most ID in travellers. This scenario allows us to come into contact with all types of microorganisms, become infected or become a carrier and not develop symptoms until our return, providing a magnificent opportunity for these microorganisms to spread worldwide. And it is no less significant to consider the surveillance of the possible transport, transmission and subsequent dissemination of known and unknown infectious agents to humans through inert material as familiar to us as close to us as electronic devices, international shipping packaging, etc.

The increasingly common tendency to travel for pleasure, the opportunities for more affordable trips thanks to ICT and low-cost strategies, the constant desire or need to travel (*wanderlust*), to make these trips based around recreational activities involving high risk of infection", the search for remote places inspired by travel influencers, etc, etc, makes it inevitable that people will develop ID caused by different microbes during these yearned-for holidays. Geographic expansion is not going to stop. There are no borders, neither for the human being, nor for the microorganisms. You do not travel alone, the microbes go with you. For all these reasons, I propose that we update the concept of travellers' diseases and coin the term microbioturismo for the most up to date and realistic picture of TD, in which we are not the only protagonists in tourism.

Funding

The authors declare that they have not received funding to carry out this work.

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DOI of original article: <https://doi.org/10.1016/j.eimc.2020.03.008>

[☆] Please cite this article as: Albert-Hernández M. A propósito del nuevo coronavirus: microbioturismo. *Enferm Infecc Microbiol Clin*. 2020;38:510.