Coinfection dengue and melioidosis infection

Coinfeccão de dengue e melioidose

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Dear Editor,

The recent publication on severe coinfection of melioidosis and dengue fever in Brazil is very interesting[1]. Macedo et al. noted for the need to consider melioidosis among the reported differential diagnoses of community-acquired infections where both melioidosis and dengue fever are endemic[1]. Indeed, the concurrent infection between two tropical diseases in endemic area can be expected. For melioidosis and dengue, the concurrent is already reported in Thailand[2] as noted by Macedo et al.[1]. There are some remained interesting questions to be further studied. The exact prevalent rate of concurrent dengue and melioidosis infection should be systematically studied. The rarity, very few reports, might be due to several factors such as: a) under-report; b) under-diagnosis; c) no actual concurrent infection. Indeed, the concurrent infection can be seen only if: a) there are both pathogens at the same time and same place; b) there must be the vector for transmission of dengue; c) the host has to expose to both diseases. However, where there is any interaction between the two pathogens that might promote or prevent concurrent infection is another interest question.

REFERENCES


Authors reply: Coinfection dengue and melioidosis infection

Resposta dos autores: Coinfeccão de dengue e melioidose

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Dear Sir,

The considerations presented by Viroj Wiwanitkit are extremely important and relevant. The objective of our study was to report the first case of co-infection with melioidosis and severe dengue that occurred in northeastern Brazil[1]. Dengue was first diagnosed in Ceará in 1986 and has since become highly endemic, with frequent epidemics and high mortality rates[2-4]. Melioidosis was first diagnosed in 2003[5,6], and the first sero-epidemiological study to determine the disease occurrence was performed only recently and in only two municipalities[7].

We agree with the Viroj Wiwanitkit statement that the rarity of such reports may be due to underreporting and/or underdiagnosis. However, this possibility appears to be more frequent for cases of melioidosis because it is a complicated disease to diagnose and has only recently been described in Brazil[5]. Similar underreporting, but without co-infection, was suggested by Lima et al. when they detected cases of hantavirus among suspected dengue patients for the first time[8].

As the author himself stated, there is the potential for a simultaneous infection given that, in Ceará, northeastern Brazil, Aedes aegypti is present, the four previously isolated dengue virus serotypes are in circulation, and the bacterium Burkholderia pseudomallei is present in the soil and water[9]. Together, these factors favor the possibility that other similar cases of co-infection may occur.

Thus, the interaction between these two pathogens merits consideration, particularly because both diseases involve the host’s immune response, which is certainly one aspect that requires further studies.

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