

Coinfection dengue and melioidosis infection

Coinfecção de dengue e melioidose

Viroj Wiwanitkit^{[1],[2]}

[1]. Wiwanitkit House, Bangkhae, Bangkok, Thailand. [2]. Medical University, Joseph Ayobabalola University, Nigeria.

Dear Editor,

The recent publication on severe coinfection of melioidosis and dengue fever in Brazil is very interesting¹. 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 Thailand² 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.

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Address to: Dr. Viroj Wiwanitkit. Wiwanitkit House, Bangkhae, 10160 Bangkok Thailand.
Phone: 668 7097-0933
e-mail: somsriwian@hotmail.com; wviroj@yahoo.com
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Authors reply: Coinfection dengue and melioidosis infection

Resposta dos autores: Coinfecção de dengue e melioidose

Dionne Bezerra Rolim^[1] and
Luciano Pamplona de Góes Cavalcanti^{[2], [3]}

[1]. Curso de Medicina, Universidade de Fortaleza, Fortaleza, CE. [2]. Departamento de Saúde Comunitária, Faculdade de Medicina, Universidade Federal do Ceará, Fortaleza, CE. [3]. Faculdade de Medicina, Faculdade Christus, Fortaleza, CE.

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 Brazil¹. Dengue was first diagnosed in Ceará in 1986 and has since become highly endemic, with frequent epidemics and high mortality rates²⁻⁴. 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 municipalities⁷.

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 Brazil⁵. 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 time⁸.

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 water⁹. 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.

Address to: Dr. Luciano Pamplona de Góes Cavalcanti. Deptº Saúde Comunitária/UFCE. Rua Prof. Costa Mendes 1608, 5º Andar, 60430-140 Fortaleza, CE, Brasil.
Phone: 55 85 3366-8045
e-mail: pamplona.luciano@gmail.com
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