Innate immune response to dengue and chikungunya virus (co-)infections

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Propositions

belonging to the PhD thesis

Innate immune response to dengue and chikungunya virus (co-) infections

1. Pharmacological targeting of inflammatory mechanisms early in infection may serve as an important strategy to prevent long-term sequel of CHIKV pathogenesis, without the necessity to reduce viral replication (this thesis).

2. Increased survival of lymphocytes and changes in monocyte subset distribution caused by CHIKV infection likely represent early events underlying chronic inflammation that accompanies CHIKV-induced arthritis (this thesis).

3. Misdiagnosis not only hampers epidemiological understanding of arboviral diseases such as dengue, chikungunya and Zika but also profoundly affects the clinical picture of, and outcome for infected patients (based on Furuya-Kanamori L et al., BMC Infect Dis, 2016).

4. Studies on mechanism of co-infections are by nature complex, however significant progress can be achieved by the application of novel single-cell analysis techniques combined with bioinformatics.

5. Considering there is no adequate animal model that mimics DENV and CHIKV infections in humans, combining *in vitro* studies in human peripheral blood cells with cohort studies will be crucial to identify the early events of arbovirus infection that regulate disease pathogenesis.

6. Scientific creativity aims to discover what already exists in the design of nature whereas artistic creativity produces forms or representations that are not limited by strict adherence to reality… Both are needed to understand and describe the world we live in (Orci L. and Pepper M. S., Nat. Rev. Mol. Cell Biol, 2002).

7. Done is better than perfect (Sheryl Sangberg, CEO of Facebook).

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