Pathogenesis of congenital cytomegalovirus infection : finding prognostic markers and correlates of protection

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STELLINGEN
behorende bij het proefschrift getiteld

PATHOGENESIS OF CONGENITAL CYTOMEGALOVIRUS INFECTION: FINDING PROGNOSTIC MARKERS AND CORRELATES OF PROTECTION

1. Congenital CMV infection has an effect on thymopoiesis, leading to a reduced thymic production of αβ T cells (This thesis).
2. The congenital CMV infection leads to an increased B cell production in the fetal period, rather than an increased B cell proliferation (This thesis).
3. A dysfunctional immune response that leads to an uncontrolled viral replication and inflammation is responsible for long-term impairment in congenital CMV infection. Therefore, adding anti-inflammatory agents to postnatal antiviral therapy should be taken into consideration (This thesis).
4. Certain HLA combinations are a determinant of fetal outcome in congenital CMV infection (This thesis).
5. The substantial changes in brain structure and function occurring in parallel with the infant microbiome during the first years of life create a time-window of vulnerability for brain development, and provide an opportunity for interventions, such as the use of prebiotics, probiotics and synbiotics. *Diaz H., Seminars in Fetal & Neonatal Medicine, 2016.*
6. Personalized vaccines against tumour neoantigens should be the priority in cancer research, as by reducing the risk of autoimmunity due to breaking tolerance these allow redirecting such treatment towards a non-advanced stage of cancer patients. *Finn O. J., Nature Reviews, Immunology, 2018.*
7. Apoptosis of infected cells enables the presentation of self-antigens by MHC class II molecules in an inflammatory context, with generation of autoreactive TH17 that can promote auto-inflammation and autoantibody generation. *Campisi L. et al, Nature immunology, 2016.*
8. A strong activation of the immune system can alter the systemic metabolic profile with consequences that extend beyond the immune system, and involve pathways such as the production of neurotransmitters in the brain. *Miyajima M. et al, Nature Immunology, 2016.*
9. There is no true interpretation of anything; interpretation is a vehicle in the service of human comprehension. The value of interpretation is in enabling others to fruitfully think about an idea. *Andreas Buja, Professor of Statistics, University of Pennsylvania, Philadelphia, US.*
10. Be wary of a philosopher who knows he knows. Indeed, we never stop being a learner, not even the master. *Norberto Bobbio et al, Che cosa fanno oggi i filosofi?, Bompiani, Milano 1982, Italian philosopher of law and political science, 1909 – 2009.*
11. The fate that awaits almost all scientists is to be placed in one of the Nine Circles of Scientific Hell where they are tormented forever in ways corresponding to their sins, ranging from the Creative Use of Outliers to the Data Invention. In the latter, the worst sinners of all are trapped forever in a block of solid ice. Frozen in front of their eyes is a paper explaining very convincingly that water cannot freeze in the environmental conditions of this part of Hell. *The Nine Circles of Scientific Hell. Perspectives on psychological science : a journal of the Association for Psychological Science (2012).*
12. Research is an immersion in the unknown, and an excellent researcher has to confront with his/her absolute stupidity, every day, making it productive. The more comfortable we become with being stupid, the deeper we will wade into the unknown and the more likely we are to make big discoveries. Making productive stupidity a central part of scientific education would ease the generation of great scientists, and would help the faculty not to fail by only checking whether the student gets all the answer of the exam right. *Schwartz, M. A., Journal of cell science, 2008.*