Exploring host-immune-microbial interactions during intestinal schistosomiasis

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STELLINGEN

behorende bij het proefschrift

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1. Egg producing and non-egg producing schistosome infections prompt the emergence of distinct splenic regulatory populations, with evidence that schistosome associated microbiotas promote their instruction and assist in the modulation of unrelated inflammation in the lung (*this thesis*)
2. Considering the intestinal tissue damage evoked by *S. mansoni* infection, schistosome infections represent a compelling system to disentangle the core cell types and effector molecules that regulate mucosal inflammation, and the signals underlying their generation (*this thesis*)
3. Schistosome egg transit plays a dominant role in the modification host microbiota structure, with egg-driven microbial alterations shown to increase over the course of infection and differences in bacterial communities also more pronounced with increasing infection dose (*this thesis*)
4. The composition of the intestinal microbiota is intricately linked to the fine tuning of host immunity, with the receipt of a schistosome-infection associated microbiota boosting mesenteric $CD4^+$ T cell production of IL-4 (*this thesis*)
5. In the absence of commensals, intestinal pathology was reduced significantly, with smaller granulomas and less inflammation (*Holzscheiter et al, Clin Exp Immunol 2014*). These observations advocate for bacterial involvement in the regulation of schistosomiasis-associated pathology in the gut.
6. Before the onset of egg production, schistosome worms establish an immunologic environment that is primed for the amplification of type 2 responses to parasite antigens (*de Oliveira Fraga et al, J Infect Dis 2010*).
7. Mutual adaptation of intestinal parasites and the intestinal microbiota is likely to also have consequences for other inflammatory diseases or for host physiology outside the immune system (*Zaiss et al, Immunity 2015*)
8. With live helminth infections proving less than universally effective in the treatment of hyperinflammatory disease, there is increasing priority given to dissecting helminth-driven regulatory pathways and finding mediators from parasites that engage these pathways (*Maizels, Allergy 2020)*
9. Only when your experiment fails do you realise i) how much you care and ii) to stop being complacent
10. Quocunque Jeceris Stabit. Whichever way you throw me, I will stand (Three legs of Mann, motto)
11. When two people meet, each one is changed by the other so you've got two new people (*John Steinbeck, The winter of Our Discontent, 1961*). In science, your interests, and the researcher you become, are shaped by the colleagues you encounter along the way