The endothelial compartment as a disease modifier in bleeding disorders

Laan, S.N.J.

Stellingen behorende bij het proefschrift getiteld

The endothelial compartment as a disease modifier in bleeding disorders

1. Manual analysis of microscopic images, especially of crowded organelles like Weibel-Palade bodies, can introduce bias. Automated quantification is therefore indispensable for reliable and reproducible image analysis. (This thesis)

2. Robust conclusions regarding endothelial colony forming cell (ECFC) characteristics cannot be made without phenotypic and transcriptomic evaluation. (This thesis)

3. Criteria on culture methodology of ECFCs identified by the ISTH-SSC workshop are not sufficient to increase the reliability of ECFC studies and to reduce interlaboratory discordances. (Adjusted from Smadja *et al*., JTH, 2019)

4. No research model represents the human life form in the same way as the real human organism, but fundamental truths can be discovered from simple models nonetheless. (Adapted from Hannes Kahrass *et al*., Animals, 2024)

5. Ex vivo von Willebrand factor (VWF) secretion by endothelial colony forming cells directly correlates with in vivo VWF levels. ECFCs can thus be used to study patient specific endothelial defects. (This thesis)

6. For VWF related endothelial research, ECFCs are currently a superior model than iPSC-ECs. (This thesis)

7. EndoMT and inflammation likely drive the heterogeneity observed between ECFCs. Controlling these aspects would allow control over the phenotypic aspects of ECFCs. (This thesis)

8. Although common, Von Willebrand disease is at risk of misdiagnosis, overdiagnosis and underdiagnosis. It is vital that a personalized approach improves the diagnostic aspect and not further complicates it. (Adapted from Omid Seidizadeh et al., Nature Reviews Disease Primers, 2024)

9. A standardized definition of DDAVP response is vital for effective and efficient use in patients and for further research. (This thesis)

10. Success or failure of a microscopy experiment rests upon its planning and design, not upon its execution. (Adapted from Rebecca Senft *et al*., PLoS Biology, 2023)

11. If it can be solved, there's no need to worry, and if it can't be solved, worry is of no use. (Adapted from Dalai Lama XIV)