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Infantile haemangioma: A human model for tissue regeneration

Infantile haemangioma (IH) is the most common tumour of infancy, characterised by an initial proliferation with aggressive vasculogenesis, followed by spontaneous slow involution leaving a fibro-fatty residuum. IH affects about 10% of infants and has a predilection for female, Caucasian and premature infants. We have demonstrated the presence of embryonic-like stem cells in the endothelium of proliferating IH that express markers associated with mesenchymal and haematopoietic plasticity. These primitive cells are also the putative source of the fibro-fatty tissue that naturally occurs during involution of this tumour. This presentation focuses on the role of the primitive endothelium in the pathoetiogensis of IH and their ability to form downstream definitive mesenchymal and haematopoietic cells. It will also cover our insights into the role of the renin-angiotensin system (RAS) in the regulation of this primitive population, underscoring the novel use of RAS modulators in the treatment of problematic IH. The potential to exploit IH as a human model for directed regenerative medicine will be discussed.

Biography

Tinte Itinteang serves as the current Chief Scientific Officer and the Evans Family Research Fellow of the Gillies McIndoe Research Institute (GMRI) in Wellington, New Zealand. He completed his Medical Training at the Melbourne University in 2001, and then completed his Basic Medical Residency in New Zealand, from 2008-2010. He completed his PhD from Victoria University of Wellington, NZ on the role of stem cells and the renin-angiotensin system (RAS) in infantile haemangioma. From 2012-2014, he was appointed as a Research Fellow at the Gillies McIndoe Research Institute, during which he spent six weeks at the Friedlander laboratory at The Scripps Research Institute in San Diego investigating the role of iPSCs for disease modelling. He was then appointed as the Chief Scientist of the GMRI from 2015. His work on the role of stem cells and the RAS in infantile haemangioma has been acknowledged with the International Society for the Study of Vascular Anomalies John Mulliken award as well as several national and international honours. He is the author of over 50 peer reviewed articles and has given over 100 presentations at international conferences.

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