Monocyte and Neutrophil Inflammatory Responses to the Periodontopathogen Porphyromonas gingivalis

KARTHEYAENE JAYAPRAKASH
Medical Science with a specialisation in Biomedicine

This thesis deals with the innate immune responses of leukocytes to periodontopathogen Porphyromonas gingivalis, a natural member of the oral microbiome and is indicated as key species in the pathogenesis of periodontitis. Hematogenous spread is a plausible explanation for P. gingivalis dissemination to distal sites such as atherosclerotic plaques, leg ulcers and placental tissues. The events that occur between leukocytes and P. gingivalis is of vital interest as this could dictate the presence and viability of P. gingivalis in the other sites. Leukocytes such as monocytes, neutrophils are also phagocytes and they express a plethora of germ–line coded pattern recognition receptors like toll-like receptors, NOD and protease-activated receptors. These receptors recognize different structural signatures of P. gingivalis that results in the activation of various pro-inflammatory signalling pathways. In this thesis, we elucidate the role of P. gingivalis interaction with these phagocytes in contribution to inflammation.