16 - Miscellaneous

PO-033 - (23961) - PLANETARY HEALTH: DECODING TRYPANOSOMATID INFECTION THROUGH ULTRASTRUCTURAL IMAGES

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Leishmaniasis and Chagas disease are endemic in many countries, affecting millions of humans/animals worldwide. Macrophages can be the host cell for *Leishmania* and *Trypanosoma cruzi*, polymorphonuclear cells can encounter the parasite soon after their introduction into the dermis, along with dendritic cells (DCs). DCs are crucial in bridging innate and acquired immunity, leading to the activation of competent effector cells able to control the infection. However, parasites can evade intracellular defense mechanisms and spread within the mammal host. Investigating closely, it has been demonstrated that immune response can shift from protective activity leading to parasite elimination to tolerogenic immune reactions, and persistence in the host. Extracellular vesicles (EVs), produced also by trypanosomatids, play a significant role in modulating the host immune response against *Leishmania* and *T. cruzi* parasites. Parasite EVs facilitate initial infection while regulating parasitic replication, preventing premature host death, which impacts parasite transmission to other hosts.

With such a huge quantity of parameters involved in the success of these parasitic infections, it is paramount to gather this complexity into concise, simple lines, for a multidisciplinary perspective in the One Health framework. To contribute to comprehensive understanding of the immune mechanisms involved in diseases caused by trypanosomatids, we have gathered findings from our group's last years of research presenting them through scientific illustrations alongside ultrastructure images.

Scientific panels presents the complexity of these immune mechanisms.

Researchers engaged in investigating biological processes related to zoonotic diseases can contribute consistently to providing a simple and accurate explanation of complex immune pathways.

Palavras-chave : Trypanosomatids,, Extracellular vesicles,, Immune evasion/competence