LIPID MEDIATORS IN HOST-PATHOGEN INTERACTIONS DURING LEISHMANIA INFECTION: AN INTEGRATIVE REVIEW

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Lipid mediators can control the inflammatory response in several infectious diseases, including leishmaniasis. However, these mediators may promote antagonistic roles in the *Leishmania*-host interaction depending on the *Leishmania* species involved in the infection. Herein, we analyzed the role of mediators in the *Leishmania*-host interaction in the experimental and clinical context, aiming to identify the main cell types studied, as well as the main eicosanoids and their influence during the infection. For this, we performed an integrative review including studies that evaluated the role lipid mediators in vivo and in vitro experimental models of *Leishmania* infection, as well as in clinical studies up to the present date. We identified 41 in vitro experimental articles, 13 in vivo experimental articles and 6 clinical studies. The main lipid mediators studied in the pathogen-host interaction were the eicosanoids LTB_4 and PGE_2, which are related to the inflammatory response in cutaneous and visceral leishmaniasis. In vitro models using macrophages and neutrophils infection reveal that LTB_4 plays a fundamental role in reducing the parasite load, while PGE_2 and $PGF_{2\alpha}$ promote the suppression of the cellular response, favoring the survival of the parasite in the host. In the in vivo infection, PGE_2 is related to the visceralization process of the disease and the persistence of tegumentary lesions. An emerging role in pathophysiology has been pointed out for mediators of the HETE class and for Resolvin D1, which act favoring *Leishmania* infection and are associated with more severe cases of the disease. Thus, it can be concluded that lipid mediators play crucial roles in the *Leishmania*-host interaction, modulating the inflammatory response and disease progression. Studies exploring the contribution of intervention in the production of lipid mediators during the course of the disease are still needed.

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