**Introduction**

Parasites of the genus *Leishmania* are the causative agents of cutaneous, mucocutaneous or visceral leishmaniasis. This disease is considered endemic in over 90 countries and about 2 million new cases occur every year. More than 12 million people are believed to be infected, 310 million people are at risk and around 20 to 50 thousand deaths annually are due to the disease. [1]

**Immunology**

Macrophages are indispensable for parasite survival, replication and differentiation. Appropriate activation of macrophages is crucial for eliminating the pathogen. The activation is divided into classical and alternative activation. [2]

**Evasion mechanisms**

**Promastigotes**

- **TLR2** → recognizes LPG and amastigote-specific antigens.
- **TLR4** → recognizes GSLP and P8GLC.

**Amastigotes**

- **GP63** → binds to fibronectin receptors.

**Conclusions**

1. Macrophages and DCs play a critical role in leishmaniasis disease.
2. Cytokine patterns lead with different disease outcomes.
3. The effective mechanisms for parasite killing are the production of NO, ROS and lysosomal proteases.
4. *Leishmania* uses a variety of evasion mechanisms to favor its survival and replication in macrophages.
5. Current treatments to leishmaniasis include the use of drugs, but their side effects are high.
6. Immunotherapy is a promising alternative to conventional drugs, but its use is controversial and further study is needed.

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**References**


