EVALUATION OF RPMI-PY MEDIUM FOR *TRYPANOSOMA CRUZI* AND DIFFERENT LEISHMANIA SPECIES.

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ABSTRACT

Trypanosoma spp. and *Leishmania* spp. are causal agents of a number of parasitic diseases. Culture media can be divided into 3 main categories: semisolid, biphasic, and liquid. While biphasic and semisolid culture media need blood, an important factor for the reproduction of parasites, most liquid media require fetal calf serum or erythrocyte lysate. A culture media RPMI-PY demonstrated a good performance in terms of time and parasitic load of *L. infantum* compared to other culture media. The aim of the work was to evaluate the performance of RPMI-PY medium in different Leishmania species and also to evaluate in T. cruzi culture.
RPMI-PY is likely to be valuable additions to laboratory practice in light of the relatively simple recipes, general availability of the components, and in terms of suitability because rabbit breeding is not necessary and the costs are lowered and can be used for all Leishmania species and to cultivate *T. cruzi*.

INTRODUCTION

Trypanosoma spp. and Leishmania spp. are causal agents of a number of parasitic diseases. Culture media can be divided into 3 main categories: semisolid, biphasic, and liquid. While biphasic and semisolid culture media need blood, an important factor for the reproduction of parasites, most liquid media require fetal calf serum or erythrocyte lysate.

A culture media RPMI-PY demonstrated a good performance in terms of time and parasitic load of *L. infantum* compared to other culture media (1). In vitro cultivation of parasites plays an important role in the study and treatment of the disease and to simulate the host environment, especially in an in vitro culture system can be extremely demanding, assuming one can actually determine all the relevant variables. The aim of the work was to evaluate the performance of RPMI-PY medium in different Leishmania species and also to evaluate in *T. cruzi* culture.

MATERIAL AND METHODS

The conventional Leishmania media used for the comparison are Evans' modified Tobie's medium (EMTM), RPMI 1640 medium, and peptone-yeast extract medium (PY) (2) and RPMI-PY medium. *L. aethiopica, L. braziliensis, L. donovani, L. major, L. tropica, L. amazonensis* in promastigote forms, and a strain of *T. cruzi* were incubated at 24°C and were monitored by measuring the growth rate through the incubation period (3 days).

RESULTS

Data regarding the growth rate and the enrichment curve were collected for all the different cultivation systems. Figure 1 shows culture media data.

CONCLUSION

RPMI-PY is likely to be valuable additions to laboratory practice in light of the relatively simple recipes, general availability of the components, and in terms of suitability because rabbit breeding is not necessary and the costs are lowered and can be used for all Leishmania species and to cultivate *T. cruzi*. in particular in 72 hours, where RPMI-PY medium revealed *Leishmania major, tropica, amazoniensis* and *trypanosoma cruzy* counts significantly higher than EMTM (P , 0.05) while only *L. brasiliensis* showed in EMTM a counts significantly higher than RPMI-PY (P , 0.05).

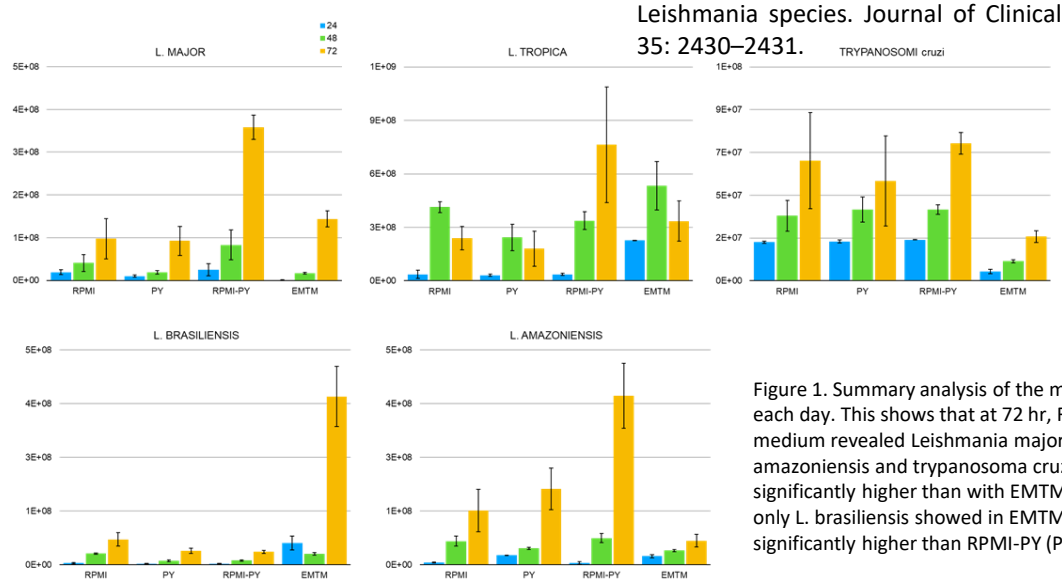

Figure 1. Summary analysis of the media tested each day. This shows that at 72 hr, RPMI-PY medium revealed Leishmania major, tropica, amazoniensis and trypanosoma cruzy counts significantly higher than with EMTM (P , 0.05); only L. brasiliensis showed in EMTM a counts significantly higher than RPMI-PY (P , 0.05).

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