95. Growth of Leishmania braziliensis in Tissue Cultures of Rodent Cells.

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In developing a suitable host cell-parasite combination in tissue culture for the study of the intracellular development of hemoflagellates, growth of Leishmania braziliensis in tissue culture, a hitherto unreported application of this technique, has been achieved in young and embryonic tissues and macrophages of laboratory rodents. Exposure of normal embryonic mouse liver cells to flagellated forms of L. braziliensis from conventional blood agar cultures produced no infections although the liver cells grew luxuriantly in the usual tissue culture formulations. When explants prepared from newborn (less than 16 hours old) Syrian hamster spleen and liver grown on cover glass substrate in Leighton tubes at 37°C. for 8 to 10 days were seeded with blood agar cultures of L. braziliensis, fair numbers of intracellular leishmaniform organisms were seen in both spleen and liver cells when cover slips were withdrawn 1 to 3 days later and stained. In another approach, macrophages (obtained in peritoneal exudate aspirated from cotton rats following intraperitoneal injection of 25 cc. per kilo of body weight of sterile mineral oil) were placed in Leighton tube tissue cultures and allowed to grow out for 7 to 9 days. When challenged with flagellated blood culture forms of L. braziliensis, removal of cover glasses 2 to 3 days later revealed, on staining, intracellular leishmaniform organisms in the well-spread-out macrophages. By further modification of the nutrient tissue culture formulation or substitution of a more acceptable host cell line, it is hoped that serial transfer and cyclic intracellular development of this parasite may be eventually achieved.