A Brazilian species of *Entamoeba dispar* (ADO) produces amoebic liver abscess in hamsters

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In contrast to *Entamoeba histolytica*, which is the etiologic agent of human amoebiasis, *Entamoeba dispar* has been considered as a non-pathogenic species present in asymptomatic carriers. This latter species is currently classified as a different protozoan species of the human gut and unable to produce invasive disease.\(^1\) The distinctions between both species of *Entamoeba* have been achieved through the combination of biochemical, immunological and genetic data. Although *E. dispar* was originally regarded as morphologically identical to *E. histolytica*, recent studies have shown the existence of differences between both species, including the absence of liver lesions produced by *E. dispar*.\(^2\) However, all previous comparative studies have been performed using the strain SAW 760 RR of *E. dispar* isolated in England and very little is known regarding other strains.

In this study, we tested another sample of *Entamoeba* of human origin, isolated in Minas Gerais, Brazil. The trophozoites of this genus maintained in monoxenic (Figure 1) and polyxenic cultures (associated with *Escherichia coli*) (Figure 2), showed a Type I (non-pathogenic, according to Sargeunt) isoenzymatic pattern, and was classified in fact as *E. dispar* species (ADO strain) by using immunological and molecular biology techniques. Surprisingly, when an *in vivo* test was performed by inoculating the trophozoites of ADO polyxenic cultures into the hamster liver, animals showed at the 7th day, the presence of large (amoebic type) liver abscesses (Figure 3), which were later confirmed as typical amoebic lesions by light microscopy analysis (Figure 4). Control animals inoculated only with the associated *E. coli* did not show any liver damage.

Our data suggest that, while strain SAW 760 RR of *E. dispar* is practically innocuous to some target cells,\(^2\) other *E. dispar* strains may have different behavior and pathogenic capacity. Here we are reporting for the first time an *E. dispar* strain (ADO), which was capable to produce large liver abscess. Even though the bacteria *E. coli* was incapable to produce liver damage by itself, their association with *E. dispar* constitutes important factor to be considered for further studies related to pathogenesis of this protozoan.

**References**