

## A MICROSCOPIC ANALYSIS OF THE INTERACTION BETWEEN *GIARDIA LAMBLIA* AND INTESTINAL CELLS

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The mechanisms underlying giardiasis are poorly understood. Elucidating specific interactions of the parasite with host epithelium is likely to provide evidences to a better comprehension about pathogenesis. In this work the Caco-2 cell line was used as in vitro model to analyse basic aspects of the interaction process. The cells were allowed to interact for different times. Measurement of the transepithelial electrical resistance showed significant decrease (around 40%) suggesting disruption of paracellular barrier. Immunofluorescence microscopy showed damage in integrity of tight junction after parasite attachment, as assayed by localization of specific junctional proteins such as claudin-1, ZO-1 and ZO-2. Nevertheless, no significant changes were observed for distribution of adherens (E-cadherin and  $\beta$ -catenin) and desmosomal (desmocollin-2/3) proteins. These results were also supported by transmission and field emission scanning electron microscopies. Surprisingly, antibodies recognizing some of the proteins also labeled the *G. lamblia* trophozoites. Labeling was mainly restricted to a structure known as the paraflagellar rod. This structure was also labeled with antibodies recognizing the paraflagellar proteins PFR-1 and PFR-2 previously characterized in trypanosomatids.

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