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Interaction of the parasite *Trichomonas vaginalis* with human neutrophil extracellular traps

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Trichomonas vaginalis is a flagellated parasite that causes human trichomoniasis; this is the non-viral most common sexually transmitted disease worldwide. Trichomoniasis is associated with the premature birth of newborns, with infertility and with increased susceptibility to human immunodeficiency virus and papillomavirus infections. This infection is characterized by a heavy inflammatory response with abundant number of neutrophils. Neutrophils, the most abundant cells in the bloodstream, have a main function to eliminate the pathogenic microorganisms through phagocytosis, degranulation and the formation of neutrophil extracellular traps (NETs). NETs are DNA fibers associated with histones and antimicrobial peptides that trap and prevent the spread of pathogens. The purpose of this research was to characterize the interaction between *Trichomonas vaginalis* and human neutrophils *in vitro*. The formation of NETs was activated by trophozoites and by its surface lipophosphoglycan (LPG), which was reduced in the presence of an antibody to TLR-4, suggesting the participation of this receptor in NETs formation induced by *T. vaginalis*. NETs trapped trophozoites, as observed by confocal microscopy and after a 3-hour interaction, the viability of *T. vaginalis* decreased significantly. These results suggest that neutrophil extracellular traps are effective against *T. vaginalis*; however, the presence of excessive number of neutrophils during infection may also contribute to the damage of epithelial mucosa.

Biography

Eva E Avila is a Professor at the Universidad de Guanajuato, Mexico. Her research interest is in innate immunity defense, especially antimicrobial peptides and some virulence mechanisms of the parasites *Trichomonas vaginalis* and *Entamoeba histolytica*. She also enjoys teaching in bachelor and postgraduate levels.

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