Assessment of *Entamoeba histolytica* Coproantigen and Specific Salivary IgA in Relation to Real-Time PCR for Detection of Intestinal Amoebiasis

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ABSTRACT

Despite the *Entamoeba histolytica* was first discovered more than 160 years ago, it remains a major health problem in developing countries, including Egypt. Discriminating the morphologically similar pathogenic species from the non-pathogenic one is a challenging task, specifically when relying on the traditional diagnostic tools as microscopy. The objective of the current study was to assess the usefulness of detecting *E. histolytica* coproantigen and specific salivary IgA for proper identification of intestinal infection with *E. histolytica*, using ELISA, in relation to the gold standard real-time PCR technique. 38 stool samples were proved positive for *E. histolytica*-like stages by microscopy and subsequently exposed to molecular analysis, using specific primers and probes related to *E. histolytica* which excluded 8 out of these 38 samples, indicating their relation to non-pathogenic species. All diagnostic tests achieved 100% specificity and relatively good sensitivity of 93.3 and 86.6% for specific coproantigen and salivary IgA respectively. Conclusively, ELISA-specific coproantigen or secretory salivary IgA are rapid reliable cost-effective and relatively sensitive diagnostic tools that can discriminate between pathogenic *E. histolytica* from those of non-pathogenic *E. dispar*, thus helpful in epidemiological surveys. The short duration of the secretory IgA may pose additional advantages as it can diagnose active infection, besides its ability to diagnose amoebic liver abscess.

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