HEICOBACTER PYLORI AND CRYPTOSPORIDUM CO-INFECTION IN DIARRHEIC IMMUNOCOMPROMISED EGYPTIAN CHILDREN AND ESTIMATED RISK FACTORS

First A. Asmaa Ibrahim¹, Second B. Yasser BM ali², Jr., Third C. Ayman A El Badry¹

¹Diagnostic and research unit of parasitic diseases (DRUP), (Cairo University, Egypt)
²Institute of Genetic engineering and Biotechnology, (University of Sadat City, Egypt)
³Imam Abdulrahman Bin Faisal University, (Saudi Arabia)

Background & Objectives: The pathogenic bacterium Helicobacter pylori (H. Pylori) and Cryptosporidium spp are well-known for their high prevalence in immunocompromised pediatric patients worldwide especially in developing countries like Egypt. Associations between both infectious agents due to sharing the same mode of infection estimated risks and predictive factors for susceptibility to co-infection. This study conducted to determine the prevalence of H. pylori and Cryptosporidium spp co-infection in diarrheic Egyptian children by copro PCR restriction fragment length polymorphism (PCR-RFLP) and immunochromatography test studying their estimated risk.

Methodology: Fecal samples were collected from 100 immuno-compromised pediatric patients. All samples were submitted to coproscopic examination for detection of intestinal parasites before and after concentration, acid-fast stain for coccidian parasites detection such as Cryptosporidium and copro-PCR-RFLP targeting Cryptosporidium oocyst wall protein (COWP) gene for Cryptosporidium and urease subunit alpha (Urea) gene targeted for H. pylori. Immunochromatography tests (ICT) were performed for detection of Cryptosporidium copro-antigen and H. pylori Hsp antigen as a rapid diagnostic test.

Results: Among the studied population, positive cases for cryptosporidiosis by PCR (58%) also were co-infected with H. pylori. Additionally among the studied variables only gender, weight loss and polyparasitism were significantly associated (P<0.01) with detection of H. pylori by using multivariate analysis using logistic regression.

Conclusion: Our data shed some light on the fundamental role of Cryptosporidium, and it's co-infection with H. pylori. The potential contribution of H. pylori as a favourable condition for intestinal parasites is not completely known yet and its role in determining correlation with gut micro biomes remains to be fully elucidated, therefore, further investigations are warranted.

chemistasmaain@gmail.com