

Abstract

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Diarrhea is one of the most common health problems, there are many possible causes of chronic diarrhea, such as that causes by microorganisms as Parasites, Bacteria, and Viruses, however, some causes of chronic diarrhea sometimes remain unknown. The aim of our study is detection the co-infection of some intestinal parasites and *H. pylori* in chronic diarrheal patients. The current study is carried out in Thi-Qar Province which included collection of stool samples from diarrheic patients who were consulted in (General Al- Hussain Hospital, General Al-Rifai Hospital, General Al-Chabaish Hospital, Bent al- Huda Hospital, Al-Musawe Hospital) at a period extended from January to May 2019. 500 stool samples taken with different ages to both sexes and examined by light microscope for detection of intestinal parasites, the results showed that the percentage of positive samples was 155 (31.0%), and 345 (69.0%) negative, *E. histolytica* was predominant parasite (73.5%), followed by *G. lamblia* (16.2%), while the lowest rate with *C. parvum* infection (10.3%). All microscopically examination positive samples were examined with the Ag rapid test to detect of *H. pylori*-associated with intestinal parasites, the results show 109 (70.3%) positive and 46 (29.7%) negative samples. There were non-statistically significant differences according to gender, habitation, and age groups, however, the most infection was with males 87.0 (56.1%) more than females 68 (43.9%), and the most infection was in rural 81 (52.3%) more than an urban population 74 (47.7%), and the highest infection rate in age group (less than 1 – 10 years) 75 (48.4%) and the lowest age group (31-40 years) 8.0 (5.2%). A total of 96 microscopy examination positive samples were examined by PCR for diagnosis of *E. histolytica*, *G. lamblia*, and *C. parvum*, also to detection of *H. pylori*, the results show 84 (87.5%) positive samples with intestinal parasites, and 12 (12.5%) Negative samples, *E. histolytica* was the dominant parasite (48.8%), followed by *G. lamblia* (31.4%) and the lowest

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parasitic infection (19.8%) *C. Parvum*. PCR results show only 18 (18.75%) positive samples with *H. pylori* infection and 78 (81.2%) non-infected, there were non-statistically significant differences according to gender, habitation, and age groups, however, the most infection was with males 45 (53.6%) more than females 39 (46.4%), and the most infection was in rural 56 (66.7%) more than an urban population 28 (33.3%), and the highest infection rate in age group (less than 1 – 10 years) 33 (39.3%) and the lowest age group (41-50years) 4.0 (4.8%). The results of a molecular examination to intestinal parasites and serological examination to *H. pylori* show 21 (87.5%) from 24 total positive samples of *C. parvum* containing a co-infection with *H. pylori*. Overall positive samples of *E. histolytica* 59 were 44 (74.6%) containing co-infection with *H. pylori*, while only 26 (68.4%) of the 38 positive samples with *G. lamblia* had *H. pylori* infection. The BLAST results for DNA sequencing showed that isolates for intestinal parasites different with the isolates recorded at the National Center for Biotechnology (NCBI); therefore these isolates were registered in NCBI as a new isolates under the GenBank accession numbers, that including two isolates per parasite, and two isolates for *H. pylori*. *E. histolytica*, isolate IQ No.1 (MN061054.1) and *E. histolytica* co-infection with *H. pylori* isolate IQ No.2 (MN061055.1), *G. lamblia*, isolate IQ No.1 (MN061056.1) and *G. lamblia* co-infection with *H. pylori* isolate IQ No.2 (MN061057.1), *C. parvum*, isolate IQ No.1(MN061058.1) and *C. parvum* co-infection with *H. pylori* isolate IQ No.2 (MN061059.1). The accessions number for isolates of *H. pylori* are, BankIt2234134 seq1(MN065500) and *H. pylori* co-infection with intestinal parasites isolates BankIt2234134 seq2 (MN065501).