Summary

This present study was conducted from the period between (December 2012 till June 2013) to detect the molecular characterization of *Entamoeba moshkoviskii* in Iraq by using single round of polymerase chain reaction technique.

Stool samples were collected from one hundred ninety patients suffering from gastrointestinal symptoms feature from Al-Diwanyia teaching hospital, maternity and children hospital ,Afak general hospital and some hospitals in province in Iraq , their ages vary from one year to sixty five years old where classified according age gender and residence .

Entamoeba spp was diagnosed as the etiology of the diarrhea in stool samples by direct wet mount and concentration method as general stool examination (GSE), that 190 samples were microscopically positive to *Entamoeba* species directly cultured in Lock's-egg medium .

To detect the three identical *Entamoeba* spp. (*E.moshkoviskii* , *E.dispar* and *E.histolytica*) by using single round PCR technique was conducting for all samples by using specific primers for each species, 182 samples out 190 samples were positive and eight samples negative according PCR method . *E.moshkoviskii* (amplification product 580 bp) in 35 samples out of 182 sample were positive ,56 samples out 182 samples for *E.dispar* (amplification products 752 bp) and 87 samples out 182 samples for *E.histolytica* (amplification products 166 bp)with four samples have mixed infection .

Cultivation of microscopically positive *Entamoeba* species in Lock's-egg medium ,102 samples out of 190 samples succeeded to

grow in this media under the condition 36 Ċ for four days and 88 samples negative . PCR method to three identical *Entamoeba* species in culture ,63 /102 samples , four samples *E.moshkoviskii* ,26 samples *E.dispar* and 33 samples *E.histolytica* while 39 samples have negative result.

A comparison between Microscopy and PCR technique the results showed that PCR was more sensitive (81 %)than microscopy to detection and differentiation the three identical *Entamoeba* species .

Comparison between bloody and non- bloody stool samples by using PCR method was done , the results showed that 87 /182 bloody samples and 91 /182 non –bloody samples with four samples have mixed .

The present study showed the high prevalence with amoebiasis was in rural area more than urban area , the result revealed that the infected patients in rural area 119 (62.9%) while in urban area 71 (37.3%) .

The present study was revealed the high percentage of infection with gastrointestinal symptoms ≤14 years of age and a second increase in infection in a adults ≥ 4o years old and the males have high infection (64.2%) samples more than females (35.7%) samples .