

Prevalence of *Entamoeba histolytica* Among Population at Wasit Province

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انتشار طفيلي أميبا الزحار بين السكان في محافظة واسط

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الخلاصة :-

أميبا الزحار هي طفيلي ابتدائي معوي و لايزال السبب في مشكلة صحية كبيرة في المناطق الأستوائية وشبه الأستوائية. فحصت ٧٨ عينة براز من أشخاص يعانون من حالات الأسهال بين الأعمار (١ شهر - ٦٠ سنة) أثناء مراجعتهم الى مستشفى الكرامة في محافظة واسط ، العراق للتحري عن الطفيلي. أظهرت النتائج ان ١٣ عينة (١٦,٦ %) كانت مصابة بالطفيلي. تم تحليل أصابات أميبا الزحار على أساس الجنس والعمر . ظهرت أعلى الأصابات في الذكور (٢٠ %) عما هو عليه في الإناث (١٠,٧ %) . وجد انتشار طفيلي أميبا الزحار بزيادة في المجموعة العمرية (٢١-٤٠) سنة ويختفي في المجموعة العمرية (١ >) .

Abstract :-

Entamoeba histolytica is intestinal protozoan parasite still major health problem in tropical and subtropical areas. Diarrhoeal stool specimens from 78 persons between age of 1 month and 60 years attending to Al-Karamah's Hospital at Wasit Province of Iraq, were examined for the presence of *Entamoeba hitolytica*. Of these,13 out of 78 patients, (16.6%) were found infected with parasite. The distribution of *Entamoeba hitolytica* infection among the population surveyed were also analysed according to the gender and age.The higher infection was appeared in males (20 %) than females (10.7). Prevalence of *E. histolytica* was found to increase with age group(21- 40) years (22%) whereas absent in age group (> 1).

Introduction :-

Amebiasis is caused by infection with the protozoa *Entamoeba histolytica*. The organism is one-celled parasite has a fairly simple life cycle. It exists in two forms—the mobile trophozoite and the cyst form. The trophozoite form is the one responsible for disease and lives either within the colon or in the wall of the colon (responsible for disease). In most individuals, infection is either asymptomatic or produces mild intestinal discomfort. A minority of patients experience serious disease that can include bloody diarrhea and lung, liver, or brain abscesses⁽¹⁾.

Man is the principal host for amebiasis although the organism can occasionally infect animals. The infective stage is the cyst that discharge in the stool in asymptomatic patients. The disease is most common in impoverished areas, when knowledge of disease transmission is absent, and among individuals who are poor education ⁽²⁾. The main predisposing factor is poor sanitation resulting in either direct fecal-oral spread or through ingestion of contaminated water or food. There are estimates that half of individuals in developing countries are infected, compared with about a 1–4 percent infection rate in the United States as a whole and a worldwide infection rate of about 10 percent ⁽³⁾.

Entamoeba histolytica must be differentiated from other intestinal protozoa. Microscopic identification of trophozoites and cysts in the stool is the common method for diagnosing *E. histolytica* either in fresh stool or stool concentrates. Trophozoites can also be seen in aspirates and biopsy samples submitted to the surgical pathology laboratory ⁽⁴⁾. The aim of study to determine the prevalence of *E. histolytica* among population at Wasit Province.

Materials & Methods :-

A total of 78 stool samples was collected from different populations who referred to Al-Karamah's Hospital at Wasit province of Iraq. Patient complaints included abdominal pain, flatulence, diarrhea and dysentery. Stool samples were examined microscopically for the presence of *Entamoeba histolytica* (protozoan parasite) using direct smear examination, formalin-ether concentration and staining with Lugol's iodine solution. The identification of *E. histolytica* trophozoite was made by the characteristic movement of the protozoan and the presence of phagocytized red blood cells. The identification of amoebic cyst of *E. histolytica* was based on morphologic characteristics; (spherical form, mature tetra-nucleated cyst having a central endosome)⁽⁵⁾.

Results & Discussion :-

A total of 78 persons were suffered from watery diarrhoea and abdominal pain were examined. Samples of feces were detected by microscopy . According to the results of the present study *E. histolytica* had an overall prevalence of 13 /78(16.6 %) (Table 1). These results in agreement with Ali *et al.* (2003) that reported 15.6% prevalence of *E. histolytica* from preschool children in Bangladesh (6). Aza *et al.* (2003) reported 21.0% prevalence of intestinal parasites in seven villages of Malaysia. Kaur *et al.* (2002) and Zahida *et al.*, (2010) recorded 11% prevalence of *E. histolytica* in children of Delhi, India and in Pakistan, respectively (7,8).

Table (1) The Overall Prevalence of *E. histolytica*

Name of Parasite	No. of Examined sample	No. of infected sample	Percentage %
<i>E. histolytica</i>	78	13	16.6

Table -2 show the prevalence of amoebic dysentery in according to gender. The higher infection appeared in males 10/50 (20 %) than females 3/28 (10.7%). The higher prevalence of *E. histolytica* in males could be explained on the following basis; Males are more susceptible than females to infections caused by parasites, because males generally exhibit reduced immune responses and increased intensity of infection compared to females (9). These differences are usually attributed to: (1) ecological and (2) physiological, usually hormonal in origin. Ecological factors include differential exposure to pathogens because of sex-specific behavior or morphology (10). Other proximate cause of sex differences in infection is differences in endocrine-immune interactions (9).

Table (2) Distribution of Positive Cases According to the Gender

Name of Parasite	Male			Female		
	Examined	Infected	%	Examined	Infected	%
<i>E. histolytica</i>	50	10	20	28	3	10.7

Table -3 represent the distribution of amoebic dysentery cases in according to the age. The highest infection (22%) was appeared in age group (21- 40) year, and the lowest (no infection) was appeared in age group (> 1) year. These results were in agreement with other studies (8,11).

Table (3) Distribution of Positive Cases According to the Age

Name of Parasite	No. of Examined Samples	Age / Years			
		> 1 N=14	1-20 N= 38	21-40 N=18	< 40 N=8
<i>E. histolytica</i>	78	0	9(20.4%)	4(22%)	1(12.5%)

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