

A ten year (1999-2008) retrospective study of amoebiasis in University Malaya Medical Centre (UMMC), Kuala Lumpur, Malaysia

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Received 19 August 2009; received in revised form 27 August 2009; accepted 30 August 2009

Abstract. This is a ten year (1999-2008) retrospective study of amoebiasis in patients admitted to UMMC. A total of 34 cases were analyzed. The most common were amoebic liver abscess 22(65%) and the rest were amoebic dysentery 12(35%). Majority of the cases occurred among Malaysians 29(85%), with Chinese 14(41%), followed by the Malays 9(26%) and the Indians 6(18%). Foreigners made up of one Indonesian, one Pakistani and three Myanmarese and constituted 5(15%) of the total cases. Males 24(71%) were more commonly affected. Most of the cases occurred between the age group of 40-49 years, 8(23%) and 60 years and above, 8(23%). Age group of 20-50 years constituted 20(60%) of the cases. The most common clinical presentations were fever with chills and rigors 26(76%), diarrhoea 20 (59%), right hypochondrium pain 17(50%), abdominal pain 17(50%), hepatomegaly 16 (47%) and jaundice 7(20%). All were discharged well after treatment except for one case of death in a 69-year-old Chinese male with amoebic liver abscess.

INTRODUCTION

Amoebiasis is an infection caused by an intestinal protozoa *Entamoeba histolytica*. Most of the infections (90%) are asymptomatic and the remaining 10% produce a spectrum of clinical syndromes ranging from dysentery to abscesses of the liver or other organs. About 10% of the world's population is infected with *E. histolytica*. Amoebiasis is the third most common cause of death from parasitic disease (after schistosomiasis and malaria). Areas of highest incidence (due to inadequate sanitation and crowding) include most developing countries in the tropics, particularly Mexico, India and nations of Central and South America, tropical Asia, and Africa. The main group at risk in developing countries are travellers, recent immigrants, homosexual men, and inmates of institutions (Reed, 1998).

Predisposing factors for infection may include a high-carbohydrate diet, alcoholism,

genetic makeup, bacterial infection of the intestine and local injury to the colonic mucosa. It has been found in recent years that the incidence of amoebiasis is particularly high in the homosexual community due to their practice of anilingation (Tsieh, 1988).

Entamoeba histolytica has been reported in many parts of the world including Italy (Fumarola, 2007), Saudi Arabia (Sadaga & Kassem, 2007) Iran (Kurt, 2008), Poland (Stypułkowska-Misiurewicz, 2008) and Bangladesh (Haque *et al.*, 2009).

The prevalence of amoebiasis in Malaysia has been reported by many researchers, ranging from 1% to 41% (Thomas & Sinniah, 1982, Che Ghani *et al.*, 1987, Kan, 1987, Hamimah *et al.*, 1982, Lim, 1992, Sinniah & Rajeswari, 1994, Karim *et al.*, 1995; Lee & Boey 1999). Prevalence of amoebic liver abscess has been reported in many hospitals in Malaysia. (Chellappa & Rangabashyam, 1977; Vijendran, 1977; Balasegaran, 1981; Goh *et al.*, 1987).

Manukaran *et al.* (1983) reported a rare case of amoebiasis with multiple colonic perforations and ruptured liver abscess in a 43-year-old Indian male labourer.

Gilman *et al.* (1976) did the indirect hemagglutination test to study antibody titers to *E. histolytica* in different Malaysian populations. Eighty-seven percent of Orang Asli (western Malaysian aborigines) adults and 79% of Orang Asli children with acute amoebic dysentery were found to be seropositive.

Amoebiasis is still a public health problem in Malaysia, so this study is important to determine the trend of the current situation.

MATERIALS AND METHODS

A total of 34 medical records of all amoebiasis cases admitted to UMMC, Kuala Lumpur between the years 1999-2008 were traced and carefully analyzed. Data analysis was conducted by using the SPSS program.

RESULTS

Table 1. Amoebiasis classified according to its type (1999-2008) UMMC

Type of amoebiasis	No of cases (%)
Amoebic dysentery	12 (35)
Amoebic liver abscess	22 (65)
Total	34 (100)

A total of 34 patients admitted with amoebiasis from 1999-2008 showed that 12 patients (35%) had amoebic dysentery, and 22 (65%) had amoebic liver abscess. There were no cases presented with both amoebic dysentery and amoebic liver abscess. The number of cases with amoebic liver abscess is higher and is about double compared to amoebic dysentery. There was one reported case of death in a patient with amoebic liver abscess.

Table 2 shows that the majority of the cases occurred among Malaysians 29(85%) with Chinese 14(41%), followed by the Malays 9(26%) and the Indians 6(18%). Foreigners from Indonesia, Pakistan and Myanmar constituted 5(15%) of the total cases. Most of the cases occurred among the males 24(71%) and in the age group of 40-49 years 8(23%) and 60 years and above 8(23%). Age group of 20-50 years constituted 20(60%) of the cases.

Table 3 shows the clinical presentations of the amoebiasis cases. Majority (76%) of the patients presented with fever, chills and rigors followed by diarrhoea (59%), right hypochondrium pain (50%), abdominal pain (50%), hepatomegaly (47%) and jaundice (20%).

In term of occupation, majority of cases 17(50%) were not recorded, students constituted 3(9%), pensioner and housewife 2(6%) each and the rest were businessman, clerk, contractor, driver, engineer, factory worker, finance administrator, graphic designer, labourer and policeman (one case each).

DISCUSSION

Amoebic liver abscess is most frequently seen in young men and involves the right lobe of the liver more often than the left. Clinical signs and symptoms frequently include right hypochondrial or epigastric pain, fever, chills, night sweats, anorexia, malaise and weight loss. Examination of the liver aspirate by microscopy may reveal the parasite, and the diagnosis can then be established (Tsieh, 1988).

This study found that most of the cases were reported among the Chinese and predominantly in males. Balasegaram (1981) treated 317 patients with amoebic liver abscess. The majority being 40-60 years old. There were 276 males and 41 females, a male predominance of 8:1. Goh *et al.* (1987) reviewed 204 cases of liver abscess seen in UMMC between 1970 and 1985 and the patients were predominantly males, Indians, and in the 30-60 age group. Jamaiah &

Table 2. Amoebiasis distribution by age, sex and race/nationality (1999-2008) UMMC

Age Group (Years)	Malay		Malaysian Chinese		Indian		Foreigner		Total (%)
	M	F	M	F	M	F	M	F	
0-9	1								1 (3)
10-19				1		1			2 (6)
20-29	1	1	2		1		2		7 (21)
30-39			1		1		3		5 (15)
40-49	4		1	1	1	1			8 (23)
50-59			2			1			3 (9)
60+	2		2	4					8 (23)
Total	8	1	8	6	3	3	5		34 (100)
(%)	23	3	23	18	9	9	15		100

Table 3. Amoebiasis classified according to clinical presentation (1999-2008) UMMC

Clinical presentation	Number of cases (%)
Fever with chills and rigors	26 (76)
Diarrhoea	20 (59)
Abdominal pain	17 (50)
Right hypochondrium pain	17 (50)
Hepatomegaly	16 (47)
Jaundice	7 (20)

Shekhar (1999) did a retrospective study of amoebiasis from UMMC from the year 1984 to 1994 and found that most of the cases were reported in Malays and majority in males. The predominant cases among the males, could be explained by the fact that most young adult males worked and stayed far away from their homes and often took their meals outside. Outside food especially hawker's food may not be prepared in a very hygienic way and is exposed to dust and flies.

Jamaiah & Shekhar (1999) reported from UMMC that most cases were among the unemployed and the most common clinical presentations were diarrhoea and dysentery. This present study showed that there were more cases of amoebic liver abscess than

amoebic dysentery and five cases were reported among foreigners. Previously there was no record of amoebiasis among foreigners in UMMC. It is important to address this finding as it indicates the presence of amoebiasis imported into this country. In this situation, Malaysian authorities have to be more vigilant in screening foreign workers, to prevent the burden of amoebiasis in this country. All foreign workers entering this country must be screened for amoebiasis, as carriers show no symptoms, especially if they are to be employed in restaurants or as domestic helps.

Entamoeba histolytica is acquired by ingestion of viable cysts from contaminated water, food or hands. Food-borne exposure is most prevalent and is particularly likely when food handlers are shedding cysts or in cases where night soil is used as fertilizer. Less common means of transmission include oral and anal sexual practices, and in rare instances through direct rectal inoculation through colonic irrigation devices. Motile trophozoites are released from cysts in the small intestine and, in most patients, remain as harmless commensals in the large bowel. After encystation, infectious cysts are shed in the stool and can survive for several weeks in a moist environment. In some patients, the trophozoites invade either the bowel

mucosa, causing symptomatic colitis, or the bloodstream, causing distant abscesses of the liver, lungs, or brain. The trophozoites may not encyst in patients with active dysentery, and motile hematophagous trophozoites are frequently present in fresh stools. Trophozoites are rapidly killed by exposure to air or stomach acid and therefore cannot cause infection. Many asymptomatic carriers have self-limited infections. In one study, ten percent of asymptomatic patients who were colonized with pathogenic strains went on to develop amoebic colitis, while the rest remained asymptomatic and cleared the infection within one year (Reed, 1998).

In this study the number of cases affected with amoebic liver abscess was higher compared to amoebic dysentery. This may imply that amoebic liver abscess is becoming increasingly more common in Malaysia due to better diagnosis. Jamaiah & Shekhar (1999) showed that prevalence of amoebic liver abscess in UMMC (1984-1994) to be only 39%. Fifteen years later the trend has changed with amoebic liver abscess showing a tremendous increase. Could this be due to the decrease in the immunity in the population or is the parasite becoming more virulent and thus causing more complications? This study also reported amoebiasis among the foreign workers which was not reported in the previous study.

Acknowledgements. The authors would like to thank the Ethics committee UMMC for giving the approval to conduct the study and also the records office, UMMC for furnishing the data.

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