

The incidence of Ancylostoma Duodenal in anemic patients in KARBALA

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ABSTRACT

Objective

To determine incidence of AD in anemic patients in KARBLA & to assess its Geographical distribution & its harmful effect on public health

METHODS

200 Patient with anemia (Hb < 10g/ dL) were included in the study between (01.07.2000 & 01.07.2001) Data collected include age,sex,residence,Symptoms,test(Hb—G.S.E.)

Result

Of the 200patient with anemia (Hb < 10gm/DL) reveal presence of AD in 63 patients.

62 cases are detected in shady palms dates KARBLA Governorate. Youngest Age Groups are found to be commonly infected. No case is detected in KARBALA City Center

Conclusion

A.D. mostly affects young farmers in shady soil with palm trees in KARBALA governorate. It is impact physical & mental activities of the patients. Transmission to human being mostly through skin Penetration as all cases. Discovered in rural areas. It is advisable dwelling any anemic patient in rural areas is in need of having G.S.E.

Introduction

AD prevalent in southern Europe and North Africa & Northern Asia⁷ AD is soil transmitted helminthiasis live in small intestine causing iron deficiency anemia. It is one of main causes of anemia in tropics Transmission Commonly by larva penetrates skin and may be by oral route (feco—oral)^{2,4} .The adult 1 cm¹⁴⁵ survive 7—8 years need warm moist shady soil for transmission with favorable condition¹²⁶ such as poor socio—economic state & lack public sewage system as well as walking bare foot.

Each worm lays 30.000 egg/day transfers to larva in moist warm soil penetrates skin causing dermatitis transfers by blood to lung and invades alveoli causing pulmonary symptoms then ascend trachea and swallows reaches small intestine. The worm sticks to mucosa by buccal capsule causing blood loss 0.15ml/day When worms have reached the small intestine, vomiting, epigastric pain, resembling peptic ulcer may occur. Some times frequent loose stools are passed. Iron deficiency anemia, protein losing enteropathy and hypoproteinaemia may develop in the undernourished. High output cardiac failure may result from chronic iron deficiency anemia. The mental and physical development of children may be retarded . Treatment with Mebendazol 100mg twice daily for three days^{1,2,3,9,10}

Materials & Methods

In our study, 200 patients are selected between 1/7/2000 – 1/7/2001 in private clinic and lab with their pallor state (Hb < 10 g /dl) whose stool had been examined .

These patients were taken from different geographical areas in karbala city center as well as patients from peripheral villages.

Our field study has involved farm areas with density populated people Involving patients oh Hella & Najjaf neighboring province. The study includes shady date's warmth areas & not shady areas.

The data collected include residence, abdominal pain, bowel motion, dermatitis, sex, age, pulmonary symptoms, face pigmentation.

Statistical analysis

Comparison between male sand females group were carried out using (X² test) (chi test) while comparison between groups according to age & hemoglobin in AD patients were done using ANOVA test .

Results

Out off 200 patients in private clinic (Hb < 10g /dl) , it discovered 63 patients with positive A-D in G.S.E. (31.5 %) table 1 . 62 patients are living in palm dates shady village in karbala province involves neighboring areas of Hella & Najjaf province , one patient is detected in non shady palm dates (Shareaa village) , the study shows no case discovered in city center of karbala .

The study shows that infection is most common in young age group (20 - 40y) constitute 60.3% of the infected patients, second group is adolescents (<20 y) constitute 31.7% & lesser extent in adults group (>40 y) constitute 7.9% (table 2).

The youngest was 5 y girl (Hb < 6g/dl) while the oldest female (80y old) with sever anemia (Hb < 6g/dl) discovered to have AD with cardiac failure. There is no significant difference between males & females AD patients (p < 0.05) (table 2).

Data shows 23 patients complain upper abdominal pain with AD while 28 patients got loose motion with AD.

Four cases have got face pigmentation while no case detected complaining dermatitis or pulmonary symptoms (table 3).

The study shows about 75% of AD patients (47 patients) have hemoglobin level (< 8g/dl) while 25% have got hemoglobin between (8 – 10 g /dl) (figure 1) .

DISCUSSION

The importance of this study lies in the fact that it is unique study of AD in karbala & Iraq which can provide reliable information about its distribution (map) and public health effects in karbala that may resembled other rural shady palm areas of neighboring provinces of Iraq . The study gives a message to health authorities to focus attention to the neglected endemic areas with AD in karbala together with neighboring villages for eradication of infection as soon as possible by improving public health conditions namely (sewage disposable system, health education and massive treatment) depending on geographical map because any delay in this purpose will damage the productive activities of the farmers and their socioeconomic conditions and lead to delay mental and physical development of the adolescents especially in developing countries like Iraq that we need maximum productive energies to build up our home land .

The study proves most karbala dates palm regions are endemic with AD because of suitable conditions like warm, moist shady soil areas (table 4) with poor health education together with their life style by using unsanitary^{1.2.6} condition while only one case discovered in not shady palm area (Shareaa)with possibility patient having visited endemic area .

The study proves no case is detected in karbala city center (table 4) that explains no AD infection by feco – oral rout can be transmitted although poor water supply system and no proper sewage involves all karbala province and this proves infection commonly taken place by skin penetration .

Data shows infestation is more common in productive age group 20-40Y (60.3 %) table 2.

data state infection is more common in females adolescence age group (< 20y) that mean they are more involved in agriculture while males more involve in younger age group (20-40y.)^{1.4.9} as females are busy doing house wife affairs(table 1) . The data shows there is no significant difference between males and females AD patients group ($p < 0.05$ %) , this result indicate that the infection is not related to the sex of the patient and this cause harmful effects in pregnancy time and their children growth .

the study give black picture of the severity of anemia state that more than 75% of the patients have anemia (< 8 g/dl) while 25% got anemia between (8-10g/dl) figure 1. this result together with malnutrition of the farmers lead to gloomy future about its dangerous effects on their productive , mental activity and the harmful effects of socioeconomic state of Iraq (table 1) the study shows 80y old female (Hb < 6g/dl) admitted in hussain hospital with cardiac failure required blood transfusion and anti failure treatment that means elderly people involve in farm (table 2) .

The Data shows 36.5% of patients complaining upper abdominal^{1.2.6.7} pain resemble peptic ulcer , upper endoscope were done for three patients were negative before doing G.S.E and epigastria pain disappeared with Mebendazol (table 3)

The Data shows about half cases (44.4%)got loose bowel motions (tab 3) that need evaluation of all patients with upper abdominal pain or loose bowel motion

In endemic rural areas with G.S.E, no case discovered complaining dermatitis or pulmonary^{1.2.9} symptoms because of poor education of farmer and chronisty of infection (table 3) while the study shows four cases with face pigmentation may be due to malnutrition associated with infection .

During my visit to health centers in endemic areas(Hussinia – Jeria-Hindia) , they had different data, the discovered cases are not comply with actual state of infectivity in their endemic regions when discussing the problem with medical and paramedical staff ,they didn't give attention to A-D problem together with lack medical knowledge about A-D as well as in experienced laboratory staff in G.S.E and lack of stool preparation method with iodine^{6,7} as the membrane of ova AD is delicate and easily ruptured during preparation with normal saline leading to escape ova contents as convoluted larva ,so miss the diagnosis as well as need fresh stool preparation to avoid release rabidform larva which not distinguished from strongyloides-ova⁷ ,so stool preparation must be done in delicate method together with careful examination by experience medical or paramedical staff. During discussion infectivity and transmission of AD with all patients ,found only three patients have health education knowledge about AD ,this explains why this worm endemic in their regions in addition to lack of massive treatment with anti helminthes in Iraq especially during blocked time between (1991-2003) in addition to unsanitary conditions.

This requires health education for farmers to protect themselves from infection and need the help from health authorities for massive anti helminthes treatment (Mebendazol).

Only ten cases follow private clinic to assure cure infection and this rises the discussion of the problem of poor relation between doctor and patient in Iraq.

All patients treated with (Mebendazole) 100 mg twice daily for three days with iron therapy.

Conclusion

AD endemic in most shady palms dates areas in Karbala causing severe anemia, there is no case detected in Karbala city center and the infection is not related to the sex in young age group.

The study emphasizes the significance of G.S.E to every anemic patient from rural areas and the study gives a warning message to health authorities to face this problem by a master plan for the eradication of this dangerous AD worm from Karbala governorate.

الخلاصة :

مدى انتشار الانكلستوما في مرضى فقر الدم في كربلاء

الانكلستوما ديدان طولها (١ سم) تصيب الامعاء الدقيقة مسببة فقر دم نقص الحديد تتفاوت نسبته مع عدد الديدان المتطفلة وحالة تغذية المريض.

دورة حياة الانكلستوما (٧---٨ أسابيع) تبدأ بوضع البيوض مع الخروج (كل دودة تضع ٣٠٠٠٠ بيضة يوميا) ثم تتحول الى يرقات في التربة وهذه تحتاج ظروف الدفاء مع الرطوبة ومناطق مظلمة لكي تنفذ خلال جسم الانسان (القدم) مسببة حساسية واحمرار ثم تنتقل عن طريق الدم وتصل الرئتين وتخرق الحويصلات الرئوية صعودا الى القصبة الهوائية ثم تبلع لتصل الى الامعاء الدقيقة وتلتصق بجدران الامعاء عن طريق كلابات بالفم مسببة نزف (١٥.٠ مل لكل دودة با ليوم). عمر الانكلستوما ٧---٨ سنوات.

الدراسة شملت عينة من ٢٠٠ مريض مصاب بفقر الدم ($Hb > 10g/L$) في عيادة ومختبر خاصين بشكل عشوائي لمرضى مركز المدينة مع مرضى الاقضية والنواحي التي تشكل زراعة البستنة الكثافة السكانية الكبيرة فيها.

الهدف من الدراسة تحذير الجهات الصحية المختصة عن خطورة وتوطن هذه الديدان في مناطق البستنة ولفت نظرهم لتحسين نظام الصرف الصحي وتشجيع حملات التنظيف الصحي للفلاحين وطرق الوقاية وعلاج هذه الديدان بسبب تأثيرها على القدرات الانتاجية للفلاحين وعلى الصحة العامة. اظهرت الدراسة ان ٦٣ مريضا مصابا بالانكلستوما من مناطق البستنة ولم تكتشف اي اصابة في مركز المدينة مما يؤكد ان انتشار المرض بشكل اساسي عن طريق نفوذ اليرقات الجلد وليس عن طريق الفم واظهر البحث ان الشباب (٢٠---٤٠ سنة) يشكلون النسبة الكبيرة للاصابة وتبين ان معظم المرضى لايملكون ثقافة صحية عن الانكلستوما وعن وبائية المرض والوقاية منه خصوصا وان معظم المزارعين لا يستخدمون المرافق الصحية في بساتينهم واظهرت الدراسة ان الاصابة بالنساء في مرحلة الشباب متقاربة للشباب الذكور لمشاركتهم بالزراعة.

كافة المرضى عولجوا ب (Mebendazol) مع الحديد ومعظم المرضى لم يتابعوا حالتهم

الصحية مما يوضح مشكلة ضعف العلاقة بين الطبيب و المريض في العراق

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Table (1): Percentages of each group of AD patients from the total number of anemic patients (200 patients).

Groups	Percentage of AD from total anemic patients
5-20	10
20-40	19
>40	2
Total male	17
Total female	15
Total	31.5

Table (2): Total number and percentages of AD patients according to the age groups.

Age Range (Years)	Total	Male	Female	Percentage of Patients from Total number
5-20	20	٨	١٢	31.7
20-40	38	٢٢	١٦	60.3
>40	5	٤	١	7.9

Table (3): The percentages of symptoms and signs in AD patients.

Symptoms and Signs	Percentage of patients with symptoms from total AD patients
Abdominal pain	36.5
Loose bowel motions	44.4
Face pigmentation	6.4
Dermatitis	0
Pulmonary symptoms	0

Table (4): Geographical distribution of incidence of AD in Karbala governorate.

Location	Shady area	Non shady area	Karbala city center
Number of patients	62	1	0

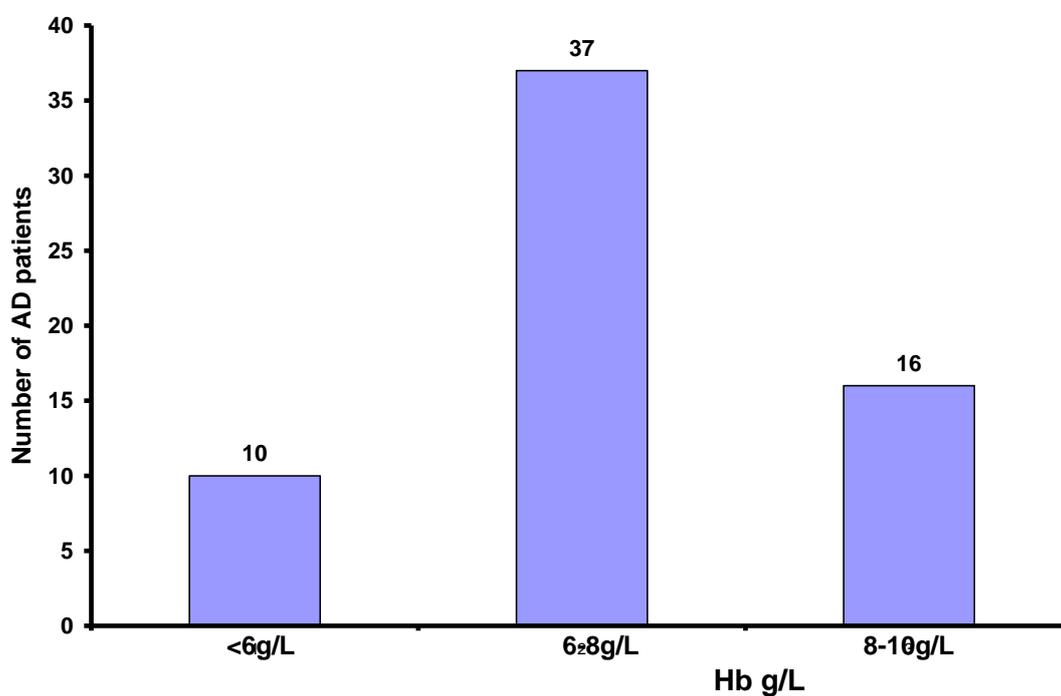


Figure (1): Distribution of the AD patients according to the level hemoglobin concentration.

