

The prevalence of Schistosomiasis among children of primary Schools in Balad –Rooz

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الخلاصة:

يعتبر قضاء بلدروز أحد البؤر الموبوءة بمرض البلهارزيا في العراق . أُجري المسح الوبائي خلال الأشهر الثلاثة الأولى من عام 2002 في عدد من المدارس الابتدائية في بلدروز لتقدير إنتشار المرض بينهم .

Abstract:

Balad –Rooz is considered as one of the endemic foci of Schistosomiasis in Iraq.

A survey was performed during the first three months of 2002 in few primary schools in Balad –Rooz to assess the prevalence among them.

Introduction:

Schistosomiasis is considered as a third problem of endemic diseases in Iraq after Malaria and Tuberculosis ⁽¹⁾. The high number of cases was from the rural area in central and south region of Iraq; this is due probably to the infested canals of irrigation with *Bulinus truncatus* the intermediate host of *Schistosoma haematobium* in Iraq ⁽²⁾.

Since 1998 Iraq suffered from very dry season like 1934. Temperature and hot summer, water level decreased about 80% of the main average in the last three years. These exceptional ecological factors should increase the number of endemic diseases, which are closely related to these factors in Iraq. Also the cultivated area and irrigation canals are increased in Iraq since 1991.

Human infection follows exposure to cercaria in water harbouring infected snails. The cercariae (the infective stage of the parasite) penetrate the skin, often causing a transient dermatitis, called swimmer's itch ⁽³⁾. A person can become infected by prolonged contact (like bathing or swimming) with fresh water containing free swimming cercariae, that then enters the subcutaneous tissues, then the blood stream, migrates to the lungs, then to the liver, and finally

to the mesenteric and perivesical venous plexuses then transform to adults⁽⁴⁾; the adult human *Schistosoma* live in small mesenteric or pelvic veins⁽⁵⁾. Hence slender female find in a small blood vessel as possible deposits their eggs. Then out of the vessels into the tissues of the bladder, and finally to the lumen and they escape with the urine. Dilution of the urine in water eggs hatch within a few minutes to several hours, children of rural area are in daily contact with waterways⁽⁶⁾.

For the diagnosis of infection with *S. haematobium* the last few drops of urine at the end of micturition (terminal urine) are most likely to be rich in ova⁽³⁾. In undulation urine eggs survive for some time with out hatch. Cercariae escape from the snail, swim in the water, if they fail to reach a man they die, if not and they reach final host they burrow using the histolytic secretion penetration⁽⁷⁾.

Although cercariae penetrated throw urinary way and mouth. In that time children swims in rivers and wide canals central and southern region due to high temperature in mid day in summer specially children live near the infested water way with the parasite⁽⁸⁾.

The aim of this study is to find a data base about the prevalence of schistosomiasis among of primary school in Balad Rooz.

Materials and Method:

1- Survey students:

All students of the schools were checked and examined, as the followings:

A-Age groups:

- Group A: 6-9 years
- Group B: 10-14 years.
- Group C: +15 years.

B - Urine samples:

Samples taken with sterile disposable bottles of 28cm³.in each visit. Samples reserved in cool box to transport to laboratory.

C- List of each survey:

In the end of each survey a list of examined students was sent to the school. The positive cases must be sent to the local hospital in Balad-Rooz.

2-Diagnosis:

The Urinary Schistosomiasis examination can be done on centrifuged urine, and if scanty addition of water can hatch eggs in few minutes (10- 15 minutes meracidium can be seen).

Exercising before urinating increase eggs number in the sample.

The terminal spine of ova indicates the species of *Schistosoma haematobium* .

Results and discussion:

About (786) children of primary schools in the endemic area were examined to determine the prevalence of schistosomiasis among them .the study was started in the beginning of January 2002. The number of examined female was about (497) and this of male was (289) (Table 1). The positive cases were (10) male and (8) female.

The number of infected male in correlation with the examined children was twice than that of female. This due to the fact that the male in contact with the river more than the female. However all the positive reported cases live near the river in the AL-Bazaniya called area in Balad Rooz. This area is considered as a hyperendemic area in the district of Balad Rooz. Also the exposed age to the diseases were the children at age of (A) and (B) categories (Table 2).

The cause of the positive cases probably due to many ecological factors and man made factors. Unfortunately the dryness and hot summer increased the infection of schistosomiasis, but the low level of education seem the first cause of the incidence of this pest disease. Schools efforts through many activities seem important to reduce the number of infection children.

This study is an important step to determine the prevalence of disease among the primary school children.

It seems also that a campaign of survey of all the population of Balad Rooz is necessary.

No. of examined			No. of positive			No. of negative		
Male	Femal e	total	Mal e	femal e	Total	Male	femal e	Total
289	497	786	10	8	18	279	489	768
36.8%	63.2%	100%	55.6 %	44.4%	100%	36.3%	63.8%	100%

Table 1: The examined students.

Group A : 6 –9 years			Group B: 10 – 14 years			Group C: + 15 years		
Male	Femal e	Total	Male	Femal e	Total	Male	Femal e	Total
31	234	265	253	258	511	5	5	10
11.7%	88.3%	100%	49.5%	50.5%	100%	50%	50%	100%

Table 2: Age distribution of the examined children.

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