

PREVALENCE RATE OF SCHISTOSOMIASIS
AMONG PATIENTS WITH GYNAECOLOGIC PROBLEMS

THESIS
SUBMITTED IN PARTIAL FULFILMENT OF
MASTER DEGREE
IN
TROPICAL MEDICINE

BY
Gamal Fahmy Abd-Elfadiel
(M. B. B. Ch.)

SUPERVISED BY
PROFESSOR DR. SALAH SAIF EL DIN.
PROF. AND HEAD OF TROPICAL MEDICINE
DEPARTMENT.

DR. EFFAT ELFEKHFACH.
ASSIST. PROF. OF TROPICAL MEDICINE.

PROFESSOR DR. MOHAMED NAGY
ELMAKHZANGY.
PROF. OF GYNAECOLOGY AND OBSTETRIC

FACULTY OF MEDICINE
AIN-SHAMS UNIVERSITY
1987

ACKNOWLEDGEMENT

To the extent that this work is successful in giving reasoned orientation to a common clinical disorder , it is dedicated to prof. Dr. SALAH SAIF ELDIN, Professor and Head of Tropical Medicine Department , Ain-Shams University, father and teacher , with my sincer gratitude , respect and admiration . He gave me much encouragement and kind help at every step of this work.

I am greatly honoured to express my gratitude to Dr. EFFAT ABDEL MONIEM ELFEKHFAKH Assist. prof. of Tropical Medicine Ain-Shams University for her continuous guidance . No words can express my feelings and respect to her .

I wish also to express my deepest thanks and appreciation to prof. Dr. MOHAMED NAGI ELMAKHZANGI , prof of Gyneacology and Obstetric , Ain-Shams University for his continuous supervision and valuable guidance . His constructive criticism was of great help to me .

I wish to express my thanks to Dr. AHMED ELTAWHEEL , PROFESSOR Of pathology.

Gamal Fahmy

1987



Dedication

This work is dedicated
to MY PARENTS,
and MUM.

C O N T E N T S

	Page
INTRODUCTION.....	1
AIM OF THE WORK.....	2
REVIEW OF LITERATURE.....	5
- Schistosomiasis problem in:	
. The world.....	5
. The Arab countries.....	5
. Egypt.....	7
- General prevalence of schistosomiasis in Egypt.....	11
DIAGNOSIS OF SCHISTOSOMIASIS.....	
I - Parasitological methods.....	14
II - Serological methods	28
I.D.T.	30
C.O.P.T.	34
ELISA.....	54
III- Indirect methods.....	56
ECTOPIC SCHISTOSOMIASIS.....	
- Definition.....	57
- Cutaneous schistosomiasis.....	41
- Ocular schistosomiasis.....	46
- Pancreatic schistosomiasis.....	48
- Schistosomiasis of the gall bladder.....	52
- Schistosomiasis of the stomach.....	55
- Neurological affection in schistosomiasis	56
SCHISTOSOMIASIS OF THE FEMALE GENITAL TRACT...	
- Pathogenesis.....	61
- Pathology.....	64

- Schistosomiasis of the vulva.....	67
- Schistosomiasis of the vagina.....	70
- Schistosomiasis of the cervix.....	74
- Schistosomiasis of the corpus uteri.....	79
- Schistosomiasis of the ovaries.....	82
- Schistosomiasis of the fallopian tubes.....	86
- The effect of schistosomiasis on the reproductive function of the female.....	88
- Schistosomiasis and sterility.....	90
- Placental involvement in schistosomiasis.....	94
- Diagnosis.....	95
MATERIAL AND METHODS.....	100
RESULTS.....	105
DISCUSSION.....	110
CONCLUSION.....	111
RECOMMENDATION.....	116
SUMMARY.....	118
REFERENCES.....	120
ARABIC SUMMARY.	

* * *

W o r d s	Abbreviation
1. Cerebrospinal fluid	C.S.F.
2. Circumoval precipitin test	C.O.P.T.
3. Intradermal Test	I.D.T.
4. Intrauterine Device	I.U.D.
5. Intravenous Pyelography	I.V.P.
6. Postmortem	P.M.
7. Schistosoma haematobium	<u>S.haematobium</u>
8. Schistosoma japonicum	<u>S.japonicum</u>
9. Schistosoma mansoni	<u>S.mansoni</u>
F i g u r e s	Page
Fig.1: Showing: Measuring stencil (Plastic template) according to Pellegrino for skin test.....	101
Fig.2: Showing: Cervical leomyoma (fibromyoma)	108
Fig.3: Cervical schistosomiasis.....	109

INTRODUCTION AND

AIM OF THE WORK

INTRODUCTION

Schistosomiasis of the female genital organs was first described in the nineteenth century; Petridis had reported in April (1899) two cases of schistosomal lesions of the cervix. In the same year, Madden described 3 cases of schistosomiasis of the vulva, vagina and posterior lip of the cervix.

In (1925), Gibson published his first observations on schistosomiasis of the female genital organs and since then, several reports of the clinical and pathological features of female genital schistosomiasis were recorded from South Africa [Gilbert, (1943); Charlewood et al., (1949); Boule and Notelvitz (1964) and Berry, (1966)] ; Zimbabwe [Gelfand, (1941) and Gilvert, (1943)] ; Egypt [Fadawy, (1962) and Shafeek, (1962)] and Nigeria [Williams, (1967)]. In all these countries the lesions were predominantly due to S. haematobium infection. Schistosomiasis of the female genital tract due to S. mansoni has also been reported from Puerto-Rico and Brazil by Arean, (1956).

AIM OF THE WORK

The objective of this work is to estimate the prevalence rate of schistosomiasis in urbans among women attending the outpatients clinic of Gynaecology Department of Ain Shams University Hospital, and comparing it with the prevalence of the disease among women of rural areas. Also evaluation of the intradermal test (I.D.T.) for schistosomiasis as a screening test to pick up cases of possible ectopic genital schistosomiasis.

REVIEW OF LITERATURE

SCHISTOSOMIASIS PROBLEM IN THE WORLD

Schistosomiasis is one of the most wide-spread parasitic infections of man, and is second only to malaria in socio-economic and public health importance in tropical and sub-tropical areas. It is a complex disease transmitted to man by infection with S. haematobium, S. mansoni and S. japonicum (Iarotski and Davis, 1981).

In (1965), the W.H.O. Expert Committee on schistosomiasis estimated that 180 - 200 million persons were infected with schistosomiasis throughout the world. In (1972), Wright calculated that approximately 124, 906,000 persons were infected in 71 countries (91, 267,000 in Africa, 2,271,000 in South-West Asia, 25,224,000 in South-East Asia, and 6,144,000 in America) and 522,470,000 were exposed to infection. He estimated that the total annual loss from the resultant reduced productivity amounted to US\$ 641,790,130. This sum did not include the cost of public health programmes, medical care or compensation for illness.

The 3 main species of schistosomes are prevalent together with their various intermediate snail hosts in about 73 countries all over the world, (Iarotski and Davis, 1981).

The expansion of irrigation for agricultural schemes, as well as projects related to the management of water

resources, play an important role in the spread of schistosomiasis especially among rural populations in the region (W.H.O., EM/RC, 1985).

In (1986), approximately 200 million people were infected with the disease all over the world and 500-600 millions exposed to the threat of infection (Bull, W.H.O., 1986).

THE SCHISTOSOMIASIS PROBLEM IN THE ARAB COUNTRIES

Schistosomiasis exists in most Arab countries, but is only of significance in Egypt, Sudan, Libya, Iraq, Saudi Arabia, Yemen and Democratic Yemen. Schistosoma mansoni exists in Egypt, Sudan, Libya, Tunisia, Algeria, Morocco, Yemen and Saudi Arabia. Schistosoma haematobium is present in Egypt, Sudan, Palestine, Lebanon, Syria, Jordan, Iraq, Saudi Arabia and Yemen. (Iarotski and Davis, 1981).

In Yemen, both S. mansoni and S. haematobium are found at different localities. S. haematobium with its intermediate snail host is prevalent in Ta'izz and Hajjah, while S. mansoni exists in Ibb and Ta'izz. The highest rate of infection occurs in the age-groups 10-20 years (Arafa, 1972).

In Iraq S. haematobium is only endemic in ten Liwas of Central and Southern Iraq. Few scattered foci were found in the north. The endemic area extends from south of Mosul, Erbil and Kirkuk bordering the Tigris River, the Greater and Lesser Zab, the Diyala and the areas irrigated from them. The disease is also endemic in the upper reaches of the Euphrates River and throughout all central Iraq. The disease has not a uniform distribution in the south of Iraq. The endemicity of urinary schistosomiasis

in Iraq is promoted by extensive systems of irrigation. Bulinus truncatus is the only demonstrated molluscan intermediate host in Iraq and it is found in all endemic areas. S.mansoni is not present in Iraq (Wright, 1973). The estimated number of population at risk of infection in Iraq is about 6 million persons out of total population which is about 16 million, i.e. 37.5% (W.H.O. report, 1985).

In Saudi Arabia, schistosomiasis is characterized by its marked focal distribution. Both intestinal and urinary schistosomiasis occur with a patchy distribution. The intermediate host of S.mansoni, Biomphalaria arabica, was found in the majority of infected areas (Riyad, Asir and Taif). While for S.haematobium, 3 different snail hosts were found, Bulinus wrighti in the north east (Riyad province), Bulinus truncatus and B. baccarii in the west. The prevalence of schistosomiasis in (1985) was 149.6 per 100 thousand of population (Annual Health Report, 1985).