

HUMAN MYIASIS BY OLD WORLD SCREW WORM IN IRAQ 1996 – 2002⁺

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Abstract

Myiasis by old world screw worm is one of the main economic problems that lead to economic losses in the livestock, which may cause death to many kinds of mammals as well as man. No case of myiasis has been recorded in Iraq before 1996, therefore the recent study is a retrospectives study of human myiasis in Iraq during the period from September 1996 to December 2002.

Twenty three (23) human cases were reported during this period All the cases were diagnosed clinically by finding the larvae in the wounds which were diagnosed and classified; in the natural history museum in Baghdad . This study reveals that the highest prevalence rate of myiasis is in the age group 1(10-14) year (34.9%). The prevalence rate in the female (60.8%) is higher than in the male (39.01%). Most of the cases were reported in rural area (73.9%) while it was (26.1%) in urban area .

The incidence of the disease in Iraq for both human and animal has declined due to the control imposed by General Veterinary Company by using insecticides and the treatment of infestations through the public health educational programmes for farmers and livestock's owners.

المستخلص

يعتبر النغف بذبابة الحلزونية للعالم القديم من المشاكل الرئيسية التي تؤدي الى اضرار وخسائر اقتصادية كبيرة في حيوانات المزرعة وانواع كثيرة اخرى من اللبائن وكذلك تصيب الانسان وقد تؤدي الى الوفاة ولم يتم تسجيل الاصابة بالتدويد في العراق قبل ايلول ١٩٩٦ ، لذلك فان الدراسة الحالية هي دراسية استقرائية تتطرق الى اصابات التدويد في الانسان للفترة من ايلول ١٩٩٦ لغاية كانون الاول ٢٠٠٢ . لقد تم تسجيل (٢٣) اصابة بشرية للفترة المذكورة اعلاه . استخدمت لغرض التسجيل استمارة استبيان تضم (العمر، الجنس، المهنة، مكان حدوث الاصابة ، الإقامة) . وتم تشخيص الاصابات سريريا من خلال وجود اليرقات في الجروح التي تم تشخيصها وتصنيفها من قبل متحف التاريخ الطبي في بغداد ومن خلال هذه الدراسة تم التوصل الى النتائج الاتية :-

١. ان الفئة العمرية الأكثر تعرضا للاصابة هي (١ سنة – ١٤ سنة).
٢. كانت الاناث اكثر تعرضا للاصابة من الذكور ، فقد كانت النسبة ٨٧,٦٠ % ، ٣٩,٠١ % على التوالي.
٣. معظم الاصابات سجلت في الريف حيث كانت بنسبة ٧٣,٩ % في حين كانت ٢٦,١ % في المدينة.

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٤. ان معدل انتشار المرض في العراق لاصابتين البشرية والحيوانية انخفض نتيجة لاجراءات السيطرة المتخذة من قبل مديرية هيئة البيطرة وذلك من خلال استعمال المبيدات ومعالجة الاصابة من خلال البرامج التثقيفية للفلاحين واصحاب المواشي.

Introduction

Myiasis: is the infestation of the body with the larvae maggot of flies .

Clinically Myiasis is divided into:

1. Specific resulting from obligate selection of living tissue by mother flies as a source of nourishment for the larvae.
2. Semispecific in which oviposition or larviposition in tissue is stimulated by foul emanating from purulent discharge or contaminated wounds.
3. Accidental in which the larvae or the eggs are deposited in superficial site or contaminate the gastro-intestinal or urinary passages [1].

Two of the most important of the obligate (specific myiasis) flies are the old world screw worm fly (OWS) *Chrysoma bezziana* and New World Screw (NWS) fly *Cochilomyia hominivorax*.

The old worm screw worm fly which is an obligate parasite, has been recorded from a wide range of host animal livestock, domestic pets and human. [2] The old world screw worm, *Chrysoma hezziana*, has been recorded in Iraq in September 1996 [3]. The infestation occurred in Baghdad and four of the central governorates, therefore spread throughout [4] governorate of the central and south central areas of the country. [5].

Objective of the study

To determine the number of human cases infected by old world screw worm *Chrysoma bezziana* in Iraq.

Materials and Methods

A retrospective study on human myiasis by (OWS) larvae was carried out during a period of 5 months (January-June 2002) in Baghdad. Data were obtained from M.O.H. (Ministry of Health)/ C.D.C.(Communicable Disease Centre). Natural History Museum /Baghdad carried out classification of the Insects. F.A.O. (Food and Agriculture Organization) to get information from internet. College of Veterinary Medicine, Central Veterinary Diagnostic Laboratory.

The data were collected were according to the questioners form as shown in fig. (1) It includes (age, sex, residence, occupation, site of lesion, governorate .

The results are demonstrated as percentages (%).

Fig. (1)

Name: Age : Year:

Sex:

Governorate:-

Residence : Urban: Rural:

Occupation:

Site of lesion

Results

Table (1) showed that the highest percentage of myiasis was reported in Babylon governorate (34.7%) followed (26.1%) in Dyala and (13.3%) in Quadisia.

Table (1): No. of human cases according to governorate.

Governorates	No. of cases	Percentage
Dyala	6	26.1
Baghdad	1	4.35
Kerbela	1	4.35
Babylon	8	34.7
Wasit	1	4.35
Quadisia	3	13.1
Najaf	1	4.35
Basrah	2	8.7
Total 8	23	100%

Table (2) reveals that the highest prevalence of myiasis is in the scalp (39.1) followed (13%) in foot.

Table (2) : No. of human cases according to the site of lesion.

Site of lesion	Frequency	Percentage
Scalp	9	39.1
Foot	3	13.0
Nose	2	8.6
Sole	1	4.3
Pinna	1	4.3
Neck	1	4.3
Lower limb	1	4.3
Upper limb	1	4.3
Face	1	4.3
Ear	1	4.3
Axilla	1	4.3
Foot toes	1	4.3
Total	23	100.0

Table (3) showed that the highest prevalence (73.9%) was found in rural area while (26.1%) was found in urban area.

Table(3): No. of human cases according to residence.

Residence	No. of cases	Percentage
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Rural	17	73.9%
Urban	6	26.%
Total	23	100%

Table (4) indicates that females infestation constitutes (60.8%) which is higher than that in males (39.1%).

Table (4): Distribution of human cases according to the site of lesion and sex .

Site of lesion	Male	Female
Scalp	2	7
Foot	1	2
Nose	2	
Sole		
Pinna		1
Neck		
Lower limb	1	
Upper limb		
Face	1	1
Ear	1	
Axilla		1
Foot toes		1
Total	9	14
Percentage	39.1	60.8

It was observed that the highest prevalence of myiasis was within the age group –1- (34.9%).and the lowest is within the age groups 4 and 5 as shown in table (5).

Table(5): No. of human cases of governorate according to the age group .

Governorate	(Age Group) years				
	1	2	3	4	5
	10-14	15-19	20-24	25-29	30-34
Dyala	2	3	1		
Baghdad					1
Kerbela		1			
Bablon	3	1	1	2	1
Wasit			1		
Quadisia		1	2		
Najaf	1				
Basrah	2				
Total	8	6	5	2	2
%	34.9	26.1	21.8	8.6	8.6

Table (6) showed that the highest percentage of myiasis (47.8%) was in Children .

Table (6): No. of human cases according to the occupation.

Occupation	Frequency	Percentage
Children(< 10 years)	11	47.8
Student	4	17.4
Housewife	3	13.0

Soldier	2	8.7
Crippled	1	4.3
Out of Work	2	8.7
Total	23	100%

Discussion

The old world screw worm fly (OWS) *chrysoma bessiana* is a serious parasite of man and warm – blooded animals . In general its geographical distribution is the tropical and sub-tropical old world [6] . OWS *chrysoma bezziana* has previously been recorded in Bahrain , Kuwait , Oman , Qatar , Saudi Arabia , the United Arab Emirates and Iran [7]. The first record of infestation in Iraq illustrates that the most cases of infestations were reported along the delta of rivers as shown in table (1) in which we notice that the highest percentag is in Babylon governorate (34.7%) followed Dyala (26.1%) which is the most favorable place for the fly to survive as it depends on availability of humidity , suitable temp. food sources and other ecological factors [8]. Meunwhile , the northern governorates were free of infestation with OWS , This could be explained by low degree of temp. in that area which sometimes reaches the freezing or near – ferrzing temp . that kills the insect [8] , this is cosistant with the report from FAO in which it is mentioned that there is reduction in the number of cases of myiasis after 6 days chills in Feberuary 1997 in Iraq [7].

The two cases reported in Basrah governorate , south of Iraq , were aquired either during transporting animals with OWS myiasis or visitors from infected governorates .

The high prevalence of myiasis in the scalp (39.1%) table(2) is associated with lower standard of hygeine , sanitation , and probably due to head lice infestation which cause itching and scratching resulting in tiny wounds which enable the fly larvae to feed directly on host necrotic or living tissue [9].

The feet are also the most exposed part to the infestation with owls because farmers in rural area are bare - footed during working.

The study also indicates that there is increase in the rate of infestation with OWS in the rural area (73.9%) table (3) compared with urban area (26.1%) , this is related to the good environmental conditions which are ideal parameters for screw worm fly activity and survival [8] , also high density of animals in rural area helps in the transmission of the disease .

It is well known that women have the responsibility of taking care of animals , livestock, animal houses and agriculture in the rural area , as well as , the age group – 1- [10-14] years is the group of working , and are in contact with animals and more prone to wound infecations than others , this cold expain the high prevalence of myiasis in female (60.8%) table (4) while it was (39.1%) in male , and in the age group 1[10-14] year (34.9%) table (5) .

Finally children infestations with OWS (47.9%) table (6), was high due to low degree of immunity , also they might be infected during playing , sleeping outdoors .

On the other hand , other studies in Suadia Arabia , report four cases of opthalgo myiasis in Riyadh [4] and single case of nasal myiasis in Dahrn [1] , These cases however do not really constitute a serious public health problem in the Kingdom.

Our study in Iraq reveals two cases of nasal myiasis and no case regarding

ophthalmo myiasis .

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