DETECTION OF NASAL BOT FLY LARVAE IN SLAUGHTERED SHEEP OF NINEVAH GOVERNORATE – IRAQ

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ABSTRACT

This study aimed to defect and calculate infection rate of *Oestrus ovis*. in sheep from **Ninevah governorate,** Iraq.The study examines the presence of *oestrus ovis*. Larvae in heads sheep collected from march to may 2014. Of 133 heads 72 (54.1%) were infested with *oestrus ovis*. A total of 142 larvae were encountered in the infested sheep. Thirty five (24.6%) of those larvae were identified as L1, 62 (43.7%) were identified as L2 and 45 (31.7%) were identified as L3, the general mean of intensity of larvae was(2) larvae/ infested head..The older animals were mostly affected as compared to younger animals. there was no significant difference between the number of infected male and female. sheep with black colored head higher infestation than that of sheep with light colored head

INTRODUCTION

Oestrosis is a wide spread myiasis which may severely impair the health of small ruminant (1). The development of larvae in the nasal sinus cavities can cause severe clinical signs such as breathing difficulties nasal discharge, Muco- purulent myiasis of nasal passages and frontal sinuses, emaciation frequent sneezing and dyspnea (2). The larvae irritate the mucosa with their oral hooks and ventral spaines erosion of the bones of the skull together with the annoyance caused by the adult flies (3). When the adult fly attacks the sheep to deposit larvae. the animal stop feeding and become restless moreover they shake their heads or press their noses against the

ground or in between other sheep (4). These clinical signs cause considerable economic losses in small ruminant live stock.

O. ovis larvae caused about 4.6kg of meat loss. 200-500g of wool loss and 10% milk loss per animal (5) Oestrosis is also considered as zoonotic disease it sometimes causes ophtalmomyiasis in humans in different regions of the world (6).Although oestrosis is very harmful to sheep, few studies had been conducted about its prevalence in Iraq.. therefor the study were aimed to implement and update information regarding on the infection rate of *O. Ovis* in Ninevah governorate

MATERIALS AND METHODS

Atotal of 133 sheep head belonging to 81 male and 52female were examined for *O.ovis* myiasis .Sheep heads were collected from march to may 2014and only animals originating from Ninevah governorate were examined in the study .sex, age and colors of the head animals were recorded. Information of sex were obtained from the butchers and confirmed by head curvature and horns (ewes being mainly hornless).aging was estimated by dentition. The heads were hand-sawn vertically through the nasal cavities using forceps and pein knife to expose the nasal cavities turbinate bones and frontal sinuses(7,8) With the aid of hand lens and a pair of hand forceps.The number of larvae was identified recovered per head was recorded washed with physiological saline solution and was kept in 70% alcohol solution and examined as described by zumpts (9).Chi-squar test was used for statistical analysis of the results(10)

RESULTS

Out of the 133 heads examined72 (54.1%) were infested with *O.ovis* ,all three larval instars were observed in both sex. All age were infested with O.ovis. the general mean of intensity of larvae was(2) larvae per infested head. Of the total of 142 larvae (24.6%) was L1 while L2 and L3 represented 43.7% and 31.7% Table (1) figure(1,2) . The infestation percentage according to the ages of animals were are given.in Table 2. Although Oestrosis was more prevalent in sheep older than three years old (58.5%) There was a significant difference for infestation rates regarding the ages of animals ($p<0.05$).

of these,72 heads belonging to 45male and 27 female were positive for the infection which gave a infection rate of 55.6and 51.9 respectively and there was no

significant difference between the number of infected male and female. The larvae were more common in animals with dark colored heads especially the animals with black heads and black noses had infestation and this was statistically significant ($p<0.05$) table(3).

Number of head examined	Number of head infested	Infection rate (%)	Number of larvae	Mean larval burden	Larval stages(%)		
					L1(%)	L2(%)	L3(%)
133	72	54.1	142	2	35(24.6)	62(43.7)	45(31.7)

Table1:Numbers of sheep infested with *Oestrus ovis* and its larval stages

Table2:The infection rate of *Oestrus ovis* larvae infestation according to animal age

Age in years	No. examined	No. Infected	Infection rate %
1≤	13	3	23,1[a]
2	55	31	56.4[b]
≥3	65	38	58.5[b]
TOTAL	133	72	54.1

*A different letters in column are significantly different($p<0.05$)

Table3:Infestation rate of *Oestrus ovis* larvae according to animal head colors

The color of head	No. Examined	No. infected	Infection rate(%)
Black	20	13	65[a]
Red	40	22	55[a]
White	10	2	20[b]
Black spotted	40	23	57.5[a]
Red spotted	23	12	52.2[a]
Total	133	72	54.1

*A different letters in column are significantly different ($p<0.05$)

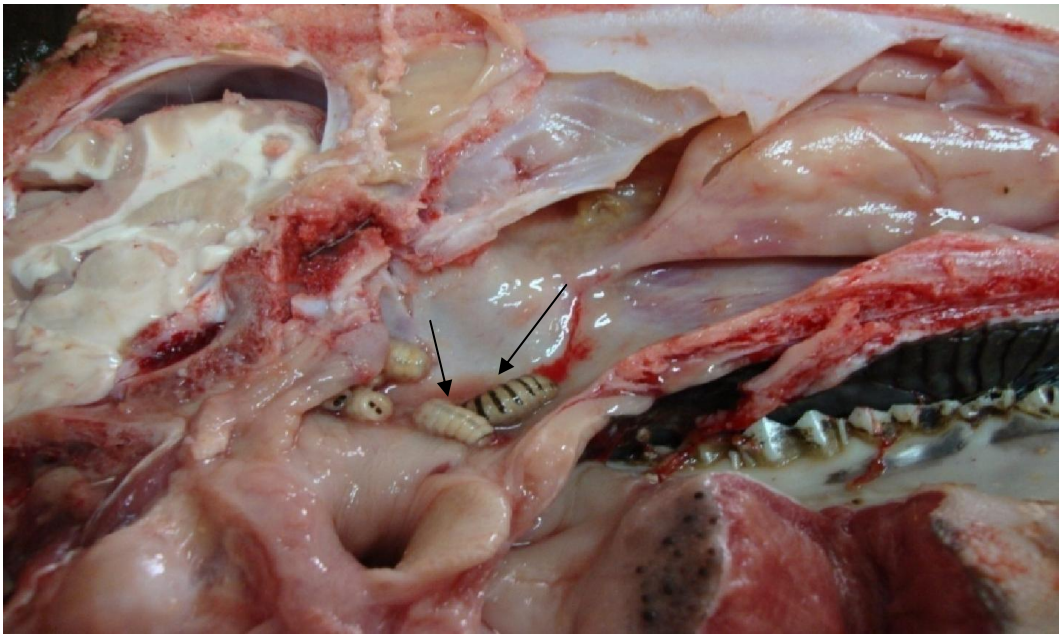

Fig 1:Asagittal section sheep head shows various larval stages bot fly in the nasal cavity

Fig 2:The larval instars of the sheep bot fly

DISCUSSION

In Iraq the infestation rates *Oestrus ovis* larvae are 17,2% in ninevah governorate (11),33,4% in Baghdad (12) and (68%) in Erbil (13). While the infestation of sheep with nasal bot fly *oestrus ovis* of current study was (54.1%) The variation in the infestation rates in Iraq may be due to difference method of head examined. in the previous studies (11,12,13) the head was examined by hitting the heads on the ground several times but in the current study the head examined by open the heads by hand sawn vertically through the nasal cavities and differences in the climate of the regions of Iraq.

The prevalence of *O.ovis* infestation(54.1)in this study was also lower than those reported in similar studies carried out in other countries such as konya region of turkey where 59% of sheep was infested with *O.ovis* larvae(14)and northern Jordan with 58% of prevalence(15)However the prevalence of o.ovis infestation in the current study was higher than those reported in similar studies carried out in other countries such as Nigde city from turkey (22.52%)of sheep was infested with *O.ovis* larvae (16) or Kars region from Turkey with 40.3% of prevalence(17) Egyptian with (11.49%) (18) Saudia Arabia with (5.5%) (19) and Lybia with(42.33%) (20).

This finding may be attributed to the fact that various factors such as differences in geographical location, environmental factors climatic conditions animal breed type of animal rearing and husbandry the experimental design and the methods followed in each study.

A total of the 133 heads examined,142 larvae were collected.The present study showed that the mean of intensity of 2 larvae per infested head was higher than those recorded in sudan with 1.4 (21) but was lower than those recorded in Kars with (4.5) (17) . Nigde city in Turkey with 5.78(16) Iran with 6.3 (22) and Etheopia with 6.8 (23) This difference might be due to the differences in the climate of the regions .Concerning the risk factors of oestrosis such as age The sheep older than 3 years were more infested than any other age group because older sheep more attractive to female flies than younger animals by increasing opporunities of exposure to fly strike immuno suppression which increased prevalence with age. This finding is in agreement with previous studies(1,15,17,20,22,24)in which the sheep older than 3years were more infested.however this finding disagreement with previous studies (16,18)in which younger sheep were more infested.

Sheep with black colored head had higher infestation rate than that of sheep with white colored head because the flies of *Oestrus ovis* has attraction to black colored animals and higher probability of acquiring the disease(17,25)

CONCLUSION

Oestrus ovis infection is present in ninevah governorate with ahigh presenting ,all of larval stages are recorded.The infection affected both sexes but affected ahigher percentage of older aged sheep.The head color could be considered as arisk factor of the disease.this study status implied that animals have to be treated frequently all the year round in order to reduce the prevalence,clinical signs economic losses

الكشف عن يرقات ذبابة نغف انف الاغنام في الضان المذبوح في محافظة نينوى –العراق

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الخلاصة

الهدف من الدراسة الحالية هو تشخيص وبيان نسبة الخمج بيرقات ذبابة نغف انف الضان في محافظة نينوى العراق . تضمنت الدراسة فحص ١٣٣راس من الضان للفترة من شهراذارالى شهرايارسنة ٢٠١٤ ولوحظ وجود اليرقات في ٧٢ راس من الضان وبنسبة مئوية ٥٤.١% . وقد تم جمع ١٤٢يرقة وبمتوسط حمل ٢ كانت يرقة ٣٥(٢٤,٦%)من الطور الاول و٦٢(٤٣,٧%)من الطور الثاني و٤٥(٣١,٧%)من الطور الثالث .كما لوحظ ارتفاع نسبة الخمج بتقدم الحيوان بالعمر.وتبين عدم وجود فرق معنوي في نسبة الخمج بين الاناث والذكور

كما بينت الدراسة ان الاغنام ذات الراس الاسود اكثر تعرض للاصابة بيرقات نغف انف الضان

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