Effect of screw – worm fly , Chrysomya bezziana larvae in cattle and treatment

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Summary

Field study on the effect of screw – worm fly , Chrysomya bezziana larvae in 216 cattle and efficacy of different drugs used for the treatment was conducted . The clinical findings were : anoraxia , irritation , congestion of penis , lameness, decrease of milk production and lose of body weight . The distribution of myiasis on various body parts observed was : 111 (51.4%) , perineal area , 24 (11%) , head, 7(3.4%) , udder , 6(2.8%) , navel , 1(0.4%) , testes , 4(1.89) , tail , 3(1.4%) , legs and 60 (28.2%) penis . The activity of diazinone , coumaphos , cypermethlin and ivermectin by administration the drug subcutaneously at a dose rate 0.2 mg/kg body weight against naturally infesting wounds with screw – worm fly larvae in cattle have been tested . The results showed emerges of the larvae outside the infested wound after treatment with cypermethlin and diazinone while coumaphos kill the larvae . Ivermectin kill the larvae after 24 hours .

Introduction

The old world screw - worm fly (SWF) , Chrysomya bezziana villeneuve is an obligatory parasite of warm – blooded animals in tropics and subtropics of South East

Asia , Indian subcontinent , Papa New Guinea and Africa(1). The old world SWF was introduced to Bahrain via shipments of live sheep from Australia in 1977 subsequently it was discovered at the Arabian Peninsula and Iran (2) . In Iraq SWF larvae had been recorded as a serious exotic disease in 1996 (3) . The myiasis that they cause may lead to serious production losses in livestock industries (1) . The efficacy of several chemicals used for ectoparasite and endoparasite control in livestock production including formulated for the treatment of screw – worm strike preparation were evaluted for screw –worm fly control using in vivo and laboratory techniques (4) . this study was conducted to recognize the effect of SWF larvae in cattle and efficacy of different drugs used for the treatment .

Materials And Methods

Clinical examination was conducted in 60 fattening male calves . 20 suckling calves and 120 cows suffering from myiasis North Baghdad (Taji area and Al-Is`haki dairy cattle farm) . Larvae were collected by forceps from infested areas of the body and preserved in 70% alcohol and examined after mounting of larvae , then cephalopharyngeal skeleton was exposed by dissecting it out and both preparations of interior and posterior were examined and identified according to (5) in the reference laboratory of college of Vet. Medicine , Baghdad University , Department of parasitology .F.Sh. Kadhim. The animals were treated

locally by pour on drugs Diazinon , Coumaphos , Cypermethlin , antiseptic dressing with potassium permenganate at a concentration 0.1% and systemically by Ivermectin at a dose rate 0.2 mg/kg body weight. All treated animals were examined clinically post – treatment daily observation the animal condition and healing of the infested wound .

Table 1 : Number of treated animals and drugs used

Methods of treatment	Active ingredient	Group	Commercial Name	Consistency	Source	No. of treated animals
	Diazinon 600 0.1%	O.P.C.	Neocidol	Liquid	Ciba	54
	Coumaphos	O.P.C.	Asuntol	Powder	Bayer	54
	Cypermeth-lin	Synthetic Pyr-Throids	Ectopor	Liquid	Ciba	83
Systemi-cally S/C	Ivermectin	Ivermech -tines	Uvemec	Liquid	Uvedco	25
					Total:	216

All treated animals were examined clinically post – treatment by daily observation , the animal condition and healing of the infested areas.

Results

This study was conducted on a total number of 216 infested animals with the Old World Screw – Worm fly larvae Chrysomya bezziana .

The clinical findings in fattening male calves characterized by congestion of prepuce and penis while in cows there were sweiling of the vulva . excretion of lochia from the ventral commissures of vulva of recently parturaded cows (1-2 weeks after parturation) and broken horns . In suckling calves there were congestion of perineal area and signs of diarrhea and omphalitis . The most common signs observed on the affected animals were : anorexia, irritation, congestion of the penis , lameness, loss of body weight and decrease of milk production in lectating cows . The lesions were encountered in the following sites of examined animals : head (broken horns) , vulva, udder, testes, perineal area, penis, legs and navel of newborn animals .Table number 2 illustrates the various sites of the infested animals.

Table 2 : Distribution of myiasis on the various body parts in infested animals

Site of myiasis	No. &(%) of cases	Site of myiasis	No. &(%) of cases
Perineal	111 51.4%	Tests	001 0.5%
Head (horns & ears)	024 11%	Tail	004 1.85%
Udder	007 3.2%	Legs	003 1.4%
Navel	006 2.8%	Penis	060 28.2%

The efficacy of different drugs used in this study illustrated i

in table 3where the degree of larval emergence and recovery of animals were used in the evaluation of different drugs .

Table 3 : Efficacy of different drugs used in the treatment of infested animals with screw – worm fly larvae

Drug	Degree of larval emergence	Description of the lesions after treatment			Field observation
		1st day	2nd Day	3rd day	
Diazinon 600 0.1%	Slowly	Presence of larvae	Recovery	Recovery	Complete recovery
Coumaphos	Not emerges	Presence of dead larvae	Lots of dead larvae	Recovery	Complete recovery
Cypermethlin	Immediately	Emerges of most larvae	Complete absence of larvae	Recovery	Complete recovery
Ivermectin	Not emerges	Presence of living larvae	Presence of dead larvae	Recovery	Complete recovery

Discussion

The larvae of screw – worm fly Chrysomya bezziana infest host tissues causing traumatic lesions or myiasis which lead to loss of conditions (7) . Maiming infertility and even death of the host (7) . In Cambodia many of fatel "strike" caused by Chrysomya bezziana in cattle and buffaloes were spread and larvae were found burrowing high into masseter muscles (6) . The encountered clinical findings in this study were characterized by : irritation , rubbing of infested areas , congestion of penis, lameness and the larvae were burrowed tunnels in the infested area and forming cavernous lesions which exude serosanguino - us fluids . The most affected site in fattening calves was penis and this attributed to grazing the calves in pastures rich of the plant Xanthium strumarium . In cows the affected area was the perineal due to physiological excreation of lochia after parturation which is attractive for the fly . All these findings were agreed with those previously reported by (1,2,6,10) . The identity of the larvae causing myiasis in animals in the study was identified according to "5" . Numerous insecticides and acaricides especially those used for ectoparasite have been used against Old World screw – worm fly , strike (6) . The maggot wounds heal very quickly after removal of the maggots and antiseptic dressing , this fact is attributed to "allantion" an urinary constrituent of the larvae which even in the absence of maggots stimulate healing by granulation and restores the normal resistance of tissue (11) . The evaluation of different insecticides used in this study was

Based on the degree of removal of larvae from the infested animal and healing of the wound , the pour – on drugs were more effective than systemic antihelminthic Ivermectin used in the study and among the pour – on drugs cypermethlin was the quickest in larval emergency and wound healing

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تأثير يرقات الذبابة الحلزونية chrysomya bezziana في الابقار وعلاجها

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الخلاصة

أجريت دراسة حقلية حول تأثير يرقات ذبابة الدودة الحلزونية **chrysomya bezziana** على 216 رأس من الماشية وكفاءة الادوية المختلفة المستعملة في العلاج . لقد تميزت العلامات السريرية : فقدان الشهية ، تهيج ، احتقان القضيب ، عرج ، قلة في انتاج الحليب وفقدان في الوزن . لوحظ توزيع النبر على الاجزاء المختلفة للجسم كالاتي : المنطقة العجانية 111 (51.4%) ، منطقة الراس 24 (11%) ، الضرع 7 (3.4%) ، الصرة 6(2.8%) ،الخصى 1(0.5%) ، الذيل 4(1.89%) ، الارجل 3(1.4%) ، والقضيب 60 (28.2%) . لقد تم اختيار المبيدات الحشرية التالية على الابقار : الدايزينول ، سايبر مثيلين والكمفص بواسطة السكب والافرمكتين عن طريق الحقن تحت الجلد بجرعة 0.2 ملغم /كغم من وزن الجسم ضد المواقع المصابة طبيعيا بيرقات الذبابة الحلزونية . اظهرت نتائج العلاج طرح اليرقات بعد المعاملة بسايبر مثيلين والدايزينول بينما الكمفص قتل اليرقة ، اما الافرمكتين فقد قتل اليرقة بعد 24 ساعة .