Journal of Animal Prod. 31 (2), https://revistas.reduc.edu.cu/index.php/rpa/article/view/e3010

Oestrus ovis in the province of Camagüey, Cuba Clinical Case

Oestrus ovis Camagüey, Cuba. Clinical case

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INTRODUCTION

Today, in Cuba, ovine raising has gone from a mere family sustenance practice to a comprehensive livestock production system whose goal is to meet the growing food demands of the population. Ovine internal parasitism is one of the main factors that hinder effective raising of this species (Rodríguez Diego *et al.*, 2015).

Oestrosis is a cavity myiasis that commonly affects sheep, and more occasionally, goats, which is caused by the larval stages of *Oestrus ovis* Diphther: Oestridae). The parasite is a largely widespread microorganism, which is well-adapted and hard to control or eradicate (Dorchies *et al.*, 2006).

The biological cycle of the parasite is closely linked to environmental factors (temperature, relative humidity, altitude, wind speed, rain and sun exposure times, and the like). The first-stage larva are deposited by imagos or adult specimens near the nostrils and mouth of the animals, then they ascend through their nostrils to the nasal and paranasal sinuses, where a couple of changes will take place. Finally, the mature larvae abandon the host through the nasal conduits, and reach the outer environment, where they bury themselves in the soil to create pupae from which the adult fly will emerge, thus completing their biological cycle (Roque, 2015).

Oestrosis in Cuba is endemic to the province of Guantánamo, where it was first diagnosed in 1995. Recently, it has been spotted in provinces Santiago de Cuba and Granma (Alfonso *et al.*, 2014).

DEVELOPMENT

In February 2019, various sheep owners residing on Circunvalación Norte, Km 8, adjacent to the veterinary clinic of University of Camagüey, argued that their animals had the flu, with mucosal lacerations, mucupurulent nasal secretions or mucus bleeding, lack of appetite, and restlessness. The animals were treated with Labiozol® (sulfoxide albendazol, produced by Labiofam, Cuba); however the symptoms did not disappear, and the youngest sheep died. A visit and clinical inspection showed that all the manifestations observed were compatible with the clinical features of *ovine Oestrosis* (Roque, 2015). Five herds within a 2 km diameter area were observed to have the same problem.

Two dead sheep from the herds were analyzed; their heads were cut longitudinally and transversally at the ethmoid bones, which had been affected by certain larvae. The death of the animals was caused by a perforation of the claviform laminas of the ethmoid, damaging the brain, and causing the death of the animals (Figure 1). A macroscopic evaluation of the respiratory tract and brain tissues adjacent to the higher respiratory ways was performed. The larvae observed in the area were isolated, and morphometric identification showed they belonged to *Oestrus ovis* in larval stage 3, according to the characters referred to by Matos Moya *et al*. (2012). *This case was the first report of Oestrus ovis* in the province of Camagüey.

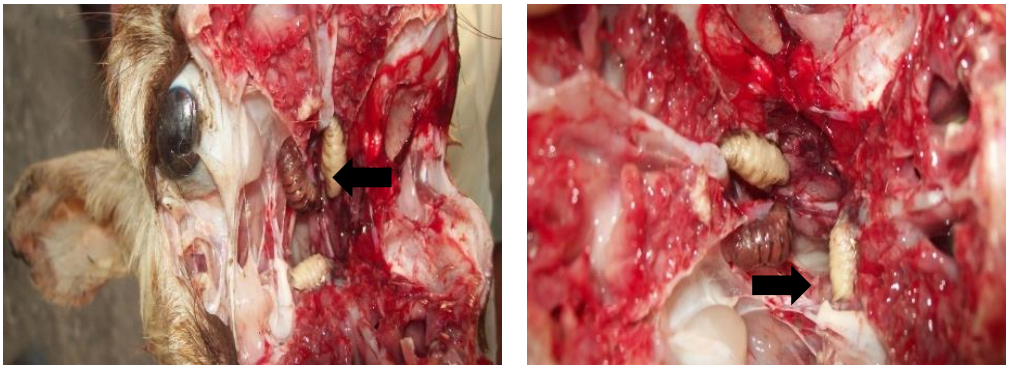

Fig. 1. *Oestrus ovis* larvae

Later, every animal from all the five herds affected initiated treatment. A single dose of Labiomec® (ivermectin, produced by Labiofam, Cuba) was used (0.2 mg/kg live weight).

All the sick animals were recovered after the treatment. Regarding the application of antiparasitic medications, the efficacy of ivermectin, doramectin, and closantel, in adult goats infected naturally by the agent, was 100, 96.1, and 97.4%, respectively (Rossanigo *et al.*, 2004).

Although this pathology does not produce high mortality in herds (Choque-Fernández *et al.*, 2017), several studies in Guantánamo, with a susceptible population of 139 536 individuals, revealed that the losses caused by mortality during a five-year period were above $ 1 million Cuban pesos.

The presence of *Oestrus ovis* in the sheep populations studied has posed a new challenge to ovine raising in the province of Camagüey. In comparison to the eastern provinces, the topographic and climatological differences observed in Camagüey call for evaluation of the epidemiological behavior of the said parasite in the particular conditions of the location, which allows for a custom-made program to fight and control the "sinus fly".

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Received: 2-12-2019
Accepted: 3-1-2019

AUTHOR CONTRIBUTIONS

The two authors equally contributed to this investigation and the drafting of the manuscript.

CONFLICTS OF INTEREST:

None