

Case Report**Innovative Approach to the treatment of Bovicolabovis Infestation in Cow: A Case Report**C. Bhuyan¹, S. Sathapathy^{1*}, S. K. Joshi², S. K. Sahu¹¹Dept. of Veterinary Anatomy and Histology, C.V.Sc. & A.H., OUAT, Bhubaneswar – 751 003, Odisha, India²Scientist (Veterinary/Animal Science), KVK, OUAT, Bhubaneswar – 751 003, Odisha, India***Corresponding Author:**

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Abstract: The present study was conducted on the crossbred Holstein cow presented with Bovicabovis infestation around the perineal and tail regions to establish new avenues in the field of therapeutic management of Bovicolabovis infestation in cows. The Kerosene oil was applied to the tail and perineum of the affected cattle and the area was subsequently washed with water. It was found that all the animals recovered well subsequently after the operation. The present study could be helpful for the field Veterinary Professionals in managing the cases of infestations of Bovicolabovis in cattle in an indigenous and cost effective way.

Keywords: Bovicolabovis, kerosene, water, cow.

INTRODUCTION

Ectoparasites including lice, ticks, mites etc. play an important role in the transmission of certain pathogens, but unfortunately they have not attracted proper attention of the veterinarians of our country. The ectoparasites are known to cause heavy economic losses to livestock industry due to their usual habit of bloodsucking, which adversely affects the economic production [1-2]. Cattle lice are unable to survive for more than few days off their host [3-4]. Therefore, result in a continuous drain on animal production. Cattle lice cause irritation and restlessness, but there are conflicting opinions concerning their economic effects on livestock production. Fadok [5] maintained that lice can have a significant effect on milk production and weight gain. Gibney *et al.* [6], Nickel [7] and Scharff [8] found a significant effect on weight gain. However, Chalmers & Charleston [9] found no significant difference in weight gain or haematocrit levels between louse-infected and louse-free cattle. Other authors have also not found significant effects on growth rate (Cummins and Graham 1982). In recent years, hide damage caused by lice has been increasingly recognised as a significant effect of lice infestations [10]. The damage is described as areas of grain loss up to 3 mm diameter that are seen on dyed crust leather [10].

The infestation of chewing lice, i.e. Bovicolabovis (Piaget) in cattle occurs throughout the world, and is more common in cattle than in any other domestic animal. Herd prevalences of 75–90% have been widely reported [11-12]. B. bovis feeds on the

outer layers of hair shafts, dermal scales, and blood scabs. It is generally most abundant on the top of the head, especially the hair of the poll and forehead, the neck, shoulders, back, rump and occasionally the tail switch. However, as infestations increase, the lice may spread down the sides to cover the rest of the body, causing considerable irritation to the host animal. Infested cattle may show disrupted feeding patterns.

The skin reaction can cause the hair to loosen and the cattle react to the irritation by rubbing or scratching, which results in patches of hair being pulled or rubbed off. Scratching may produce wounds or bruises and roughening of the skin which may lead to secondary skin infections and skin trauma. Infestations by B. bovis are associated in particular with lesions, called light spot and fleck, which leave depressions in the papillary dermis 1–3 mm, and less than 1 mm, respectively. They are only detected once the hides have been tanned. Although B. bovis may cause less individual damage than the various species of sucking lice, it is present in larger numbers and so can be extremely damaging. Poor control may be associated with a failure to detect or identify louse infestation in its initial stages and by the time clinical diagnosis is achieved the entire herd may be infested [11].

CASE HISTORY AND OBSERVATIONS

The present study was conducted on the crossbred Holstein cow presented with Bovicolabovis infestation around the perineal and tail regions (Fig. 1 and Fig. 2) to establish new avenues in the field of

therapeutic management of *Bovicola* infestation in cows. The clinical examination revealed normal rectal temperature, respiration rate and pulse rate of the animal. The appetite and defecation of the animal were normal. The milk production was slightly reduced. The animal was not dehydrated and the haemogram was

found to be normal as the condition was presented at the early stage of infestation. The lice were found to be attached around the perineal and tail regions of the animal. The animal showed aggressive behavior due to the irritation of the affected area caused by the bites of the lice.



Fig 1: Arrows showing the *Bovicola* lice in the perineum of cow



Fig 2: Figure showing the dead *Bovicola* lice in the hairs of tail of cow after application of Kerosene oil

TREATMENT AND DISCUSSION

The case was presented at very early stage. The affected perineal region and hairs of the tail were topically applied with Kerosene oil. It was left for half an hour then washed with normal clean running water. This was repeated for 3 days at every 24 hrs. interval. All the lice were found to be dead on the second day of the treatment.

Louse control currently relies largely on the use of synthetic chemicals such as the organophosphate and pyrethroid insecticides or the broad spectrum macrocyclic lactone parasiticides. However, resistance to insecticides, concerns over the possible harmful effects of insecticides on human health and the environment and the need to ensure that meat and milk remain residue-free, have led to tighter regulation and pressure to reduce their use. Clearly therefore it will be of considerable value to identify safer, more sustainable, and environmentally appropriate approaches to the control of parasitic lice of livestock.

CONCLUSION

It is very difficult to estimate the financial impact of lice infestation in cattle. Because the lice do not cause patent health problems, farmers do not attribute high importance to them or to their control. Nevertheless, the losses persist for many months, so the total cost to farmers is high, and decision-makers in animal health should give more attention to the control of these minute parasites. Further, louse infestations usually pass unnoticed until high numbers of lice occur on certain body regions or on the tail. Consequently, animals may not be treated at all or only treated in the very late stage of infestation. The present study could be helpful for the field Veterinary Professionals in managing the cases of infestations of *Bovicola* in cattle in an indigenous and cost effective way.

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