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CASE REPORT

Flea Bite Dermatitis in a Herd of Dairy Calves in Vom Nigeria

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INTRODUCTION

Fleas are parasitic insects which are found all over the world. They are wingless insects 1.5-4.0mm long, have a laterally compressed body and are different from lice in they are flattened dorso-ventrally, and are covered with a hard, shiny coating, like an external skeleton, which helps them to move through an animal's fur. There are more than 2,200 species of fleas recognized worldwide (Anon, 2006). Adult fleas are usually red-brown in color and have three pairs of legs, the last pair being quite large and well-adapted for jumping. They have piercing and sucking mouth parts which are specially designed for injecting into a host and sucking blood. They feed on the blood of cats, dogs and other animals, including humans (Lyon, 1997; Kramer and Mencke, 2001).

Flea infestation in cattle and other ruminants is rare; it has been more commonly reported in cats and dogs. Infestations of calves with *Ctenocephalides felis felis* have been reported in Israel (Yeruham *et al.*,1989), the USA (Dryden *et al.*, 1993) , Japan (Otake *et al.*, 1997) and Brazil (Araujo *et al.*, 1998). Kraal *et al.* (2006), in a survey of flea infestation, reported the infestation of calves and other domestic animal species in Libya. They reported that of the 1861 fleas recovered, 1857 were *Ctenocephalides felis strongylus* and 4 were *Pulex irritans.* Yeruham and Braverman (2004) reported Seasonal allergic dermatitis in sheep associated with *Ctenocephalides* and *Culicoides* bites. *Ctenocephalides felis felis is a flea of cats and dogs, which is responsible for skin irritation and anaemia (Dryden and Rust, 1994) and transmission of the tape worm Dipylidium caninum (Pugh, 1987). This flea can also infest other mammals including humans (Genchi, 1992).*

KEY WORDS: Fleabite, dermatitis, dairy calves, *Ctenocephalides felis felis*

CASE REPORT

On the 4th of September 2007, the clinician in-charge of the calf rearing unit of a dairy farm complaint of skin infection affecting 7 out of 25 Friesian calves of 4-6weeks old. Further history revealed that he had noticed similar condition previously in other calves which were treated with insecticide/acaricide carbaryl (Laprovet[R]). Physical examination of infested animals revealed: a mean Temperature-38.6^{O}C, pulse rate-81beats/minutes, respiratory rate-52/minute, mucous membrane was slightly pale. On close examination, there was alopecia, and crustations were seen on the skin around the dorsum, hind limbs and muzzle of the affected animals, also there was slight pruritus and presence of flea and flea excrements. Samples of fleas and skin scrapings were collected and sent to the Parasitology Laboratory (National Veterinary Research Institute Vom, Nigeria) for the identification of the fleas and screen for mites. Blood sample was collected by venipuncture for packed cell volume (PCV) and screening for heamoparasites.

RESULTS AND DISCUSSION

Skin scrapping was negatve for mites, fleas were identified as *Ctenocephalides felis*, PCV (38.5 average) which was within normal range.

There is dearth of literature on flea bite dermatitis generally and especially in Friesian breeds of livestock in Nigeria. Many species of fleas abound, but from available literature, the cat flea *Ctenocephalides felis felis,* appears to be the most common culprit infesting other large animal species including cattle, especially younger ones(Yeruham *et al.*,1989). This is what was also observed in this case. Fleas apart from causing irritation, dermatitis and alopecia can also cause anaemia especially when severe infestations occur in young animals this was however not observed in this case. This is probably due to the prompt attention given to the animals. The source of flea infestation in large animals is usually traced to contact with

either dogs or cats. The source of the flea however is worrisome as in this case the source of infection could be traced to the cats that were kept to control rodent in the feed mill near the animal pen. The bedding could also be responsible for the fleas, as this was sourced from outside the farm.

The recurrence of the flea could be explained from the fact that the cats and straw used were still responsible, also the insecticide/acaricide used though quiet effective, did not kill all the eggs and other developmental stages of the flea which are not normally seen on the animal, probably due to inadequate application. It can also be attributed to the fact that cats were always going and coming into the animal pens. Apart from anemia, flea also causes flea bite allergic dermatitis. This is characterized by intense pruritus which was absent in this case. The pruritus is caused by the injection of the flea saliva which contains a lot of antigens which then cause the animal to mount an intense immune response. This is commonly seen in dogs. Intense pruritus was not observed here probably due to breed disposition. Various methods of control and eradication of fleas have been prescribed and these ranged from the use of non chemical to chemical agents with different purposes in mind, for example the use of environmental friendly agents. The whole approach is to take care of the animal, the environment, the quarters where the animals stay and the buildings. We advocated effective rodent control, without necessarily using cats. Treated or sun dried straw and the regular changed of straw as ways to control and eradicate the fleas.

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