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Case Report

Trypanosoma brucei INFECTION IN A HERD OF SEDENTARY CATTLE IN DANJA LOCAL GOVERNMENT AREA, KATSINA STATE, NORTHERN NIGERIA– A POSSIBLE RESURGENCE OF *TSETSE* FLIES IN THE PREVIOUS *TSETSE*-FREE AREA OF NIGERIA

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INTRODUCTION

In Nigeria, African animal trypanosomosis still constitutes a major obstacle to food security in spite of previous attempts towards chemotherapy and *tsetse* control (Onyiah, 1997; Abenga *et al.*, 2004). The disease is most devastating in terms of poverty and lost of agricultural production (Hursey, 2000). These losses include; reductions in herd sizes as a result of deaths drop in calving rate, reduced market value of animals as a result of loss in body condition, drop in milk production and reduced work efficiency of draft animals (Swallow, 2000). The seasonal migration and grazing from the supposedly *tsetse* – free (with scarce feed and water resources during dry seasons) to the *tsetse* infested (but pasture rich and water abundant) areas in the Southern part of the country have tremendously contributed to the persistence infection of the nomadic cattle by *trypanosomes*; this has resulted in advocacy for pastoralists to settle down into productive cattle production compared to the nomadic behavior which does not enhance productivity.

The approximately one fifth area of the country which tends to be effectively free of *tsetse* was due to good climatic conditions such as deforestation and bush burning that does not favour the survival of *tsetse* flies. However, with forestations, strict laws on bush burning and global warming, *tsetse* flies seems to be moving back into this hitherto declared *tsetse* - free zone. Several reports of the incidence of *tsetse* flies in this zone have been received by the Clinical And Ambulatory Services Unit of the Veterinary Teaching Hospital of the Ahmadu Bello University, Zaria and these reports were confirmed by a recent diagnosis of trypanosomosis caused by *T. brucei* in a herd of Sedentary cattle located within the Northern Guinea Savannah area.

Key words: *trypanosomes*, *tsetse*-fly, sedentary cattle, pastoralists.

CASE REPORT AND MANAGEMENT

History

A settled pastoralist located at Danja Local Government Area (L.G.A) of Katsina State which fall within the Northern Guinea Savannah, visited the Veterinary Teaching Hospital of the Ahmadu Bello University, Zaria (V.T.H-A.B.U-Zaria) and presented a case of emaciation, repeated abortions, pica, and alopecia of the tips of the tails despite supposedly good appetite in a herd of 120 heads of cattle. Furthermore, a report of "swollen" liver in cattle slaughtered from among the herd was reported by butchers to the farm owner. The farm was settled for 10 years in this location prior to the report and migrating herds of cattle often camp nearby.

Field Examination

Field visit was carried out and the following observations were made: Emaciation, dry leather skin, tail alopecia, epiphora, very weak calves, reduced milk yield (as indicated by the visibly underfed suckling calves), anaemia and high body temperatures (40.0 – 42.0 ºC).

Diagnostic Plan

Twenty faecal and blood samples were collected from twenty randomly selected cattle (to assay for helminths notably flukes and haemoparasites e.g. trypanosomes)

Samples Analysis

Faecal samples were analyzed using the floatation method (Anne, 2010). Blood samples were analyzed using Haematocrit Centrifuge Technique (HCT) (Woo, 1971), and Buffy Coat Method (BCM) (Murray *et al*., 1977). Identification of *trypanosome species* were based on their motility using BCM and morphological differentiation on Giemsa stained thin films (Paris *et al*., 1982). Mean Packed Cell Volume (PCV) were obtained using HCT and haematocrit reader (Murray *et al*., 1980).

RESULT

Except in 4 of the sampled animals with strongyle egg count of 10/mg faeces, the others were devoid of helminths. The bloods of six of the animals were positive for *T. brucei* (1-2/field) and PCV ranged from 15 - 32 %.

TREATMENT

Novidium® at 1mg/ Kg bodyweight was administered by deep intramuscular injection to each animal.

DISCUSSION

The present herd under investigation were sedentary and was located in a supposedly *tsetse* – free area, however, this herd of cattle came down with *trypanosoma* infection due to *T. brucei***.** Only *tsetse* fly can transmit the infection. Unconfirmed report by the owner indicated the presence of *tsetse* flies in the vicinity in recent times, especially along the bank of a nearby stream which serves as the major sources of drinking water.

In an earlier study, Qadeer *et al*. (2008) had reported prevalence rate of 17.5% and 29.4% for *T. brucei* and *T. congolense* respectively while that of *T. vivax* standing at 40.8% in cattle in Bassa Local Government Area of Plateau State (another previously reported *tsetse* – free area). This report is indicative of changing ecology with regards to the geographical localization of *tsetse* flies in Nigeria. Nigerian livestock populations stand at greater risk of infection if a review of the current situation is not done and possibly a new risk map of the location and spread of *tsetse* flies made.

REFERENCE

ABENGA, G.N., DAVID, K., EZEBUIRO, C.O.G., LAWANI, F.A.G., OSUE, H.U., IKEMEREH, E.C.D. (2004): Trypanosome Prevalence in trade cattle in Lere Area of Kaduna State, North Central Nigeria. *Revue Elev. Med. Vet. Pays Trop*. 57: 45-48.

ANNE, F. (2010): Performing a Faecal Float. http://www.ozarkwild.org/ffloat.php accessed 24th April, 2010 at 1:33PM.

HURSEY, B.S. (2000): PAAT: The programme against African Trypanosomosis. *Trends Parasitol.* P04 (Special Edition).

MURRY, M., MC INTER, W.I.M. (1977): An improved parasitological technique for the diagnosis of African Trypanosomiasis. *Trans. R. Soc. Trop. Med. Hyg.* **71**: 325-326.

MURRAY, M., TRAIL, J.C.M., DAVIS, C.E. and BLACK, S.J. (1980): Genetic Resistance to African Trypanosomosis. *Journal of Infectious Disease*, **149**: 311-316.

ONYIAH, Y.A. (1997): African animal trypanosomosis: An over view of the current status in Nigeria. *Tropical Veterinarian* **15**: 111-116.

PARIS, J., MURRAY, M. and MC DINBA, F.A. (1982): Comparative evaluation of parasitological techniques currently available for the diagnosis of African trypanosomiasis in cattle. *Acta Tropica*, **39:** 307-316.

QADEER, M.A., DANBIRNI, S., USMAN, M., AKOGUN, O.B., GUNDIRI, M.A. and BOBBO, A.G. (2008): Prevalence of bovine trypanosomosis in Bassa Local Government Area, Plateau State, Nigeria. *Nigerian Journal of Parasitology*. **29 (2):** 136-139.

SWALLOW, B.M. (2000): Impact of trypanosomiasis on agriculture. PAAT *Technical and Scientific Series*, Vol. 2, FAO, Rome.

WOO, P.T.K (1971): Evaluation of haematocrit centrifuge and other techniques in field diagnosis of trypanosomiasis and Filariasis. *Acta Trop*. **28**: 298-303.