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Short Communication

East Coast Fever. The Tyrant Disease of East Africa

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Received: November 25, 2022; **Published:** December 23, 2022

East Coast Fever (ECF) is a cattle disease caused by protozoan parasite *Theileria parva*. The disease is mainly found in East, Central and parts of Southern Africa. It is characterized by inflammation of the lymph nodes, labored breathing, frothy nasal discharge and deaths. It affects both *Bos taurus* and *Bos indicus* with *Bos taurus* being the most severely affected. The disease is transmitted by a tick vector *Rhipicephalus appendiculatus*.

This disease has hindered livestock production in the East African region due to its high mortality rates as well as cost of treatment and control. Several mechanisms of controlling this disease such as vector control, treatment and vaccination exist. Nevertheless, these mechanisms aren't fool proof each on their own ways. Vector control in most of the livestock production systems in East Africa prove not to be 100% efficacious due to factors such as: Complexity of the vector life cycle, cost of acaricides, methods and routine of acaricides application, as well as drug resistance.

The recommended drugs for treatment of ECF disease are naphthoquinones and their derivatives. These compounds are quite expensive to rely on in large scale farming systems where huge numbers of cattle are infected with the disease. Relapse of the disease in treated animals has been reported to occur as well late institution of treatment usually results into poor prognosis.

Vaccination against the disease is another protocol employed by farmers and veterinarians to control the disease. There are 2 available vaccines which also have their limitations. They can only be administered by trained veterinarians; the vaccination process is tedious and laborious as it requires several procedures to be performed on the animals before and after vaccination unlike any other vaccine. The vaccine requires to be kept and transported at -196° Celsius whereas the diluent is kept frozen at -4° celsius. the reconstitution of the vaccine is laborious and delicate. These vaccines were synthesized in 1970's and since then no better variant have been found. The vaccination protocol is known as infection and treatment method. This involves infecting the animals with live *Theileria parva* sporozoites and subsequently treating with long acting tetracyclines. This vaccination method is not absolutely efficacious as several Theileria parva isolates exists and no single isolate offers heterologous protection against other isolates.

A big gap exists in creating new therapeutic drugs for East Coast Fever disease, vector control strategies as well as vaccines development.

Follow up for my monthly tales on the experiences I Dr Kamau Mwangi has had in my vaccination campaign against East Coast Fever.

Volume 8 Issue 1 January 2023