ECTOPARASITISM IN INDIGENOUS CHICKENS AND AVAILABLE INTEGRATED CONTROL ALTERNATIVES. A CASE STUDY IN KENYA

Z. Sabuni1* P. G. Mbuthia1 N. Maingi1 and P. N. Nyaga1

1Department of Veterinary Pathology, Microbiology and Parasitology, Faculty of Veterinary Medicine, University of Nairobi P.O. Box 29053-00625 Nairobi Kenya

Ectoparasite control in indigenous chicken is a major impediment to rural farmers since their scavenging habits and constant contact with contaminated environment expose them to parasitic infestations. Studies in Kenya have revealed that indigenous chickens are often infested with lice, fleas, soft ticks and mites among other ectoparasites. A number of techniques have been used in control of these ectoparasites. These include: management changes such as modification of poultry housing by eliminating cracks and crevices required by these pests for shelter; cultural methods like paraffin use in control of fleas (Echidnophaga gallinacea) and petroleum jelly applied on scaly legs (Cremidocoptes mutans); and traditional herbs like neem (Mwarubaini) leaves and bark in control of ectoparasites. In the treatment of scaly mites, neem (Mwarubaini) mixed with residue from soaked and filtered ash and a little water is made into paste and smeared on the scaly legs. The commonly used insecticides include Ectomin 100EC® (synthetic pyrethroid) and Sevin poultry dust® (cabaryl compound) applied as a spray (or bird dipping) and dust treatments. Therefore, an integrated control strategy is imperative for effectual riddance of these ectoparasites. E-mail address: alexe_911@hotmail.com

AN INVITRO STUDY OF SOME FACTORS THAT MAY INFLUENCE CHANGES OF VIRULENCE FOR NEWCASTLE DISEASE VIRUS


*Department of Veterinary Pathology, Microbiology and Parasitology, Faculty of Veterinary Medicine, University of Nairobi, P.O. Box 29053 – 00625, Kangemi, Kenya. *Department of Biochemistry and Biotechnology, Kenyatta University, P.O. Box 43844, Nairobi, Kenya.

A Komarov strain of Newcastle disease virus, vaccine strain was passaged ten times invitro in leucocytes cultures from six-Month-old indigenous chicken and ducks. The chicken and ducks had been immunosuppressed with Dexamethasone for four consecutive days prior to sampling of spleens. Leucocytes were separated from the sampled spleens for culture and subsequent infection with the new virus. Spleens were also sampled from non-immunosuppressed chicken and ducks. The infected leucocytes cultures were incubated under CO2 atmosphere. Virus in culture harvests was tested by direct haemaggultination and culturing in 9-11 day old specific pathogen free chicken embryos. Virulence of the virus recovered from subsequent passages was monitored by mean death time (MDT) in 9-11 day old chicken embryos, and intracerebral pathogenicity index (ICPI) in one- day old chicks and also by ability to form plaques on chicken embryo monolayers with agar overlays. Reduction in mean death times and an increase in intracerebral Pathogenicity index were observed for immunosuppressed ducks more than non-immunosuppressed and also for some of the passage level in chicken. No plaque formation was observed up to passage four. The (MDT) of the virus decreased slightly which might indicate direction towards elevated virulence. Further investigation may be required to find out whether indeed any changes occurred especially at molecular level.

LOCALIZATION OF NEWCASTLE DISEASE VIRAL NUCLEOPROTEIN IN THE TISSUES OF CARRIER DUCKS


*Department of Veterinary Pathology, Microbiology and Parasitology, P.O. Box 29053 – 00625, Kangemi, Kenya. †Open University of Tanzania, P.O. Box 23409, Dar es Salaam, Tanzania. * Corresponding author, email address: njagiluc@mail.uonbi.ac.ke

Localization of Newcastle disease viral nucleoprotein in the tissues of carrier ducks was evaluated in 45 experimentally infected and 10 sentinel ducks. Ten chickens were used as positive control birds. The ducks were sacrificed serially on day 1, 4, 8 and 14 - post inoculation. Six tissues (liver, spleen, lung, ecelon tonsils, kidneys and brain) were collected from each bird, preserved in 10% neutral formalin for 24 hours, and then transferred
UNIVERSITY OF NAIROBI
COLLEGE OF AGRICULTURE AND VETERINARY SCIENCES
FACULTY OF VETERINARY MEDICINE

PROCEEDINGS OF THE SIXTH BIENNIAL SCIENTIFIC CONFERENCE AND EXHIBITION, 2008

SCIENTIFIC PROGRAM AND ABSTRACTS

THEME:

ANIMAL-HUMAN INTERACTION

SEPTEMBER 17th TO 19th 2008

PHPT AUDITORIUM, KABETE CAMPUS