بسم الله الرحمن الرحيم

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بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى مسئولية عن محتوى هذه الرسالة.

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lty of Veterinary Medicine
artment of Virology

Studies On Tissue Culture Vaccine Prepared From Local Infectious Bursal Disease Virus (IBDV)

A Thesis
presented by

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B.V.Sc. (1993), Cairo University
for the degree of
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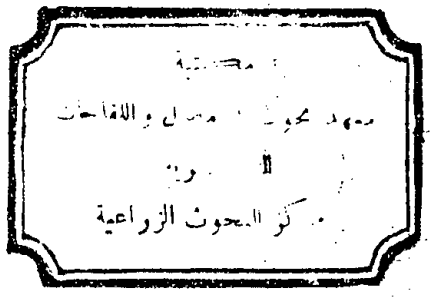
(Virology)



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Abstract

[illegible] isolate of infectious bursal disease virus(IBDV),previously propagated 40 passeged on [illegible] embryonated chicken eggs was used in this study for preparation of a tissue culture [illegible] firstly the virus was passeged three times on SPF eggs followed by six passeged on [illegible] cell line and finally the virus transfered to VERO cell line for anthor six passeged,the [illegible] culture vaccine vaccine was prepared from the 5th passeged on VERO cell ($10^{7.4}$ TCID50/ml) ,the prepared vaccine was proved to be strile ,safe and potent,the optimum [illegible] paramter were the optimum dose for vaccination was (10^{4} TCID50/ml/bird),the [illegible] route for vaccination was S/C route followed by ocular and drinking water route,the [illegible] bird age for vaccination was 28th day old followed by 21and 14 day old ,the duration [illegible] immunity lasted for three months protecting chickens against virulernt IBDV.

LIST OF ABBREVIATION

AGPT	:	Agar Gel Precipitation Test.
AS	:	Allantoic Sac.
B/B Ratio	:	Bursa Weight/Body Weight ratio.
BGM-70	:	Baby Grivet Monkey cell line.
CAM	:	Chorio-allantoic Membrane.
CER	:	Chicken Embryo Rough cell.
CPE	:	Cytopathic Effect.
ECE	:	Embryonated Chicken Eggs.
ELISA	:	Enzyme Linked Immuno Sorbent Assay
GMT	:	Geometric Mean Titre.
HA	:	Haemagglutination.
IBDV	:	Infectious Bursal Disease Virus.
IIF	:	Indirect Immunofluorescent.
LAIT	:	Latex Agglutination Inhibition Test.
NDV	:	Newcastle Disease Virus.
SNT	:	Serum Neutralization Test
SPF	:	Specific Pathogen Free.
VERO	:	African Green Monkey Kidney cell.
YS	:	Yolk Sac.

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1. INTRODUCTION

Infectious Bursal Disease (IBD) is a highly contagious viral disease of young chickens, characterized by enlargement of the bursa of Fabricius and severe renal damage. It has a striking involvement to primary lymphoid organs in the form of lymphocytic necrosis substituted with polymorphonuclear cells with severe haemorrhage and oedema (**Ivanyi and Morris, 1976**).

The disease was first recognized as a clinical entity in Delmarva, Peninsula, USA, and was designated as avian nephrosis due to sever kidney lesions seen on post mortem examination (**Cosogrove, 1962**).

Later, it was termed as Infectious Bursal Disease referring to the specific lesions caused by the disease in the cloacal bursa (**Hitchner, 1970 b**).

Eventually, the virus has been placed in the birnaviridae family on the basis of its double stranded, double segmented RNA genome (**Dobos et al., 1979**).

Viruses in that family have been differentiated antigenically into two serological types, serotype 1 which infect mainly chickens and produces clinical disease and distinct lesions, and serotype 2 which infect both chickens and turkeys and is non pathogenic for both species (**McFerran et al., 1980**).

The incidence of IBD is now considered to be very high and occurs essentially in all major poultry producing areas allover the world, with high morbidity rate up to 100% and mortality rate of 25% or more in some instance and birds that survive the infection suffer a lot from reduced immune response to subsequent vaccinations leaving the birds vulnerable for the attacks by other diseases (**Fargher et al., 1974**).

In Egypt, **El-Sergany et al. (1974)** reported for the first time the occurrence of IBDV infection in commercial broiler chickens on the basis of histopathological examination, while **Ayoub and Malek (1976)** were the first who managed to isolate and identify the causative agent of IBDV in Egypt. Since that time, many severe outbreaks were reported in either vaccinated and non vaccinated chicken flocks with high losses reaching 70% in layer pullets and 30% in meat type broilers (**Khafagy et al., 1990**).

The appearance of antigenic variants strains of IBDV in USA (**Saif, 1984**) and very virulent strains in Europe and other countries (**Brown et al., 1994**) ensures that the economic importance of IBDV will continue to be a very complex problem because of the recent field isolates of IBDV have been found to be antigenically different from previously isolated vaccinal strains of stranded serotype 1 with 30% - 70% relatedness which provide an explanation for failure of maternal immunity and vaccination programmes against IBDV using conventional vaccines (**Jackwood and Saif, 1987**).