ABSTRACT

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ABSTRACT

In the present study, the pathogenicity, shedding and safety of CAV vaccine were studied in one-day-old SPF chicks. Hematocrit values, Histopathological changes in haemopioetic and lymphoid organs, ELISA and PCR were used as testing parameters for the vaccine. Vaccinated chicks showed signs of anemia, lower hematocrit values different grades of histopathological lesions in liver, spleen and thymus. Variable degrees of seroconversion rate were observed along the 10 weeks of the experiment indicating 2 waves of immune response in vaccinated chicks compared to control non-vaccinated group. Tracing of CAV DNA genome in liver of vaccinated chicks indicated the presence of the virus in some weeks and absence in others. There was a Consistent correlation between the 4 parameters used in pathogenicity studies. To test the shedding activity of the vaccine, test-chicks were used by housing with the vaccinated one for 1 week and subjected to the above 4 parameters. Results indicated that the vaccine have shedding ability along the 8 weeks of the experiment as detected by histopathology, ELISA and PCR. It should noted that control group acquired the nature infection of CAV between 8 and 10 weeks of age. Safety studies on CAV live attenuated vaccine indicated adverse effect of the vaccine on the lymphoid organs in all doses of the vaccine (1,2 and 10 doses). The present study proposed the use of PCR and histopathology in the vaccine testing protocol of CAV.

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المستخلص العربي

تناولت هذه الرسالة ثلاث دراسات على لقاح أنيميا الدواجن المستضعف الذي تم أدخالة حديثا للبلاد اشتملت على دراسة التغيرات المرضية في أنسجة الكتاكيت المحصنة و مدى الانتشار و الأمان للقاح. تم استخدام كتاكيت عمر يوم واحد خالية من المسببات المرضية في الدراسات الثلاثة.و تم دراسة أربعة اختبارات لكل دراسة على حدة تشمل قيم الهيماتوكريت و التغيرات الهستوباثولوجية في الأعضاء الليمفاوية و الأعضاء المسئولة عن تخزين و توليد خلايا الدم (الهيموبيوتك) و اختبار الأليزا للكشف عن الأجسام المناعية الناجمة عن التحصين واخيرا اختبار تفاعل البلمرة المتسلسل(PCR) للكشف عن وجود الحامض النووى للعترة المستضعفة للقاح. أثبتت النتائج وجود بعض أعراض الأنيميا في الكتاكيت المحقونة باللقاح مع انخفاض قيم الهيماتوكريت ووجود درجات متفاوتة من التغيرات الهستوباثولوجية في الكبد و الطحال و الغدة التيموسية .و خلال العشرة أسابيع من عمر الدراسة و بتحليل نتائج الأليزا تم عمل منحنى الاستجابة المناعية للقاح و مقارنته بالكتاكيت الغير محصنة ثم باستخدام (PCR) تم الكشف عن وجود الحامض النووى في كبد الكتاكيت المحقونة باللقاح على مدى العشرة أسابيع . و في دراسة الانتشار للقاح المختبر أظهرت النتائج أن الفيروس له القدرة على الانتشار خلال الثماني أسابيع من عمر التجربة كما يجب الإشارة إلي أن جميع الكتاكيت المحصنة و الغير محصنة قد أخذت العدوى الطبيعية للفيروس بين الأسبوع الثامن و العاشر من العمر .أما عن دراسة الأمان بالنسبة للقاح فقد أظهرت النتائج بعض الآثار الجانبية في الأعضاء الليمفاوية للكتاكيت المحصنة سواء كانت بجرعة واحدة أو جرعتين أو عشرة جرعات. وتوصى الرسالة باستخدام اختبارات الهستوباثولوجى و أل (PCR) في بروتوكولات تقييم لقاح أنيميا الدواجن في الجهات الحكومية المعنية.

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List Of Abbreviation

B.P	British pharmacopoeia
CAA	Chicken anemia agent(recentely namedCAv=chicken anemia virus)
CEF	Chicken embroy fibroblasts
CNCM	Collection national de cultures de micro-organismes
CPE	Cytopathic effect
ELISA	Enzyme-linked immunosorbent assay
FAPP	Filtered air positive pressure
HV	Haematocrit value
IBDV	Infectious bursal diseases virus (Gumboro diseases virus)
I.M.	Intramuscular
MDA	Maternally derived antibodies
MDCC-MSB1	Marek's diseases virus-transformed chicken T-lymphoblatoid cell line
MDV	Marek's diseases virus
MSV	Master seed virus
PCR	Polymerase chain reaction
NF	National formulary
PBS	Phosphate Buffered Saline
Ph.EUR.	European pharmacopoeia
REV	Reticuloendotheliosis virus
S.C.	Subcutaneous
SPF	Specific pathogen free
TCID50	50 percent tissue culuture infective dose
VN	virus neutralization
W.W.	Wingweb
PV	Post vaccination
PI	Post inoculation
CLEVB	Central laboratory for evaluation of veterinary biologics
CAV DNA	Chicken anemia virus nucleic acid
FAT	Fluorscent antibody technique
ELISA	Enzyme link immunosorbant assay
PCV	Packed cell volume