

Communication

Egg drop syndrome '76 in poultry and other avian species in Nigeria

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Une enquête séro-épidémiologique concernant les anticorps du syndrome "chute des pontes" (EDS '76) a été réalisée par hémagglutination en différents points du Nigeria sur les poulets, les pintades, les canards et les pigeons. Les taux suivants confirment la prédominance de la maladie selon les espèces : 67,43 p. 100 pour les poulets, 79,68 p. 100 pour les pintades, 73,91 p. 100 pour les canards, 86,66 p. 100 pour les pigeons. Les taux élevés observés sur les espèces autres que les poulets semblent indiquer qu'elles jouent un rôle important dans l'épidémiologie de ce syndrome. Une enquête exhaustive et la vaccination des volailles sont recommandées. **Mots-clés :** Syndrome de la chute des pontes (EDS '76) - Volailles - Pintade - Canard - Pigeon - Hémagglutination - Nigeria.

Introduction

The egg drop syndrome '76 (EDS '76) is a virus disease of laying birds characterized by a sudden drop in egg production, failure to achieve peak production and the laying of malformed eggs. The disease was first reported by VAN ECK *et al.* (8). The aetiological agent was described to be an adenovirus by MACFERRAN *et al.* (6) and BAXENDALE (2). The first report of EDS '76 in Nigeria was made by NAWATHE and ABEGUNDE (7) who described a relatively high incidence of antibodies in commercial (exotic) breeds of chickens.

In this study, non-chicken species such as guinea fowls, pigeons and ducks were included to examine their relative importance in the epidemiology of EDS '76.

Materials and Methods

Sera were collected and tested for EDS '76 antibodies by the haemagglutination inhibition technique as described by VILLEGAS *et al.* (9).

Positivity threshold titres of 2-4 were regarded as trace, 8-32 as + positive, 64 and above as ++ positive.

Results

Serological examination of the 684 samples revealed the prevalence of haemagglutination inhibiting antibodies to EDS '76 virus in all the species. In samples collected from commercial poultry farms, the prevalence ranged between 35.7 and 92.5 %. In most farms (78.6 %) the preva-

TABLE I Haemagglutination inhibiting antibodies in sera of birds collected from poultry farms in Nigeria.

Location of farm	No. of sera collected	No. of positive sera	Percentage of positive sera	Age in lay (months)
<i>Chicken</i>				
Jos A	20	18	90	7
B	14	5	35.7	1
Ilorin A	25	20	80	3
B	25	16	64	5
C	8	3	37.5	Pullets
Ibadan A	28	22	78.6	18
B	20	10	50	25
C	25	22	88	3
D	25	25	100	3
E	27	25	92.5	6
F	9	8	89	7
G	15	13	89	Pullets
<i>Guinea fowl</i>				
Jos A	69	58	84	
B	170	139	82	
Total	480	384	80	

lence rate exceeded 60 % as shown in table I. The prevalence rate in guinea fowl housed in farms in Jos was as high (82.4 %) as that of chickens in many of the farms. In most of the positive sera (78.8 %) mean titres exceeded 1 : 10.

In serum samples obtained from markets, the prevalence rates were lower than those of the birds sampled in the farms. However, the prevalence rate was high in these market birds, the lowest being 29.4 % while the highest

TABLE II Haemagglutination inhibiting antibodies in sera of avian species collected from different markets in Nigeria.

Location of market	No. of sera collected	No. of positive sera	Percentage of positive sera
<i>Chicken</i>			
Tarauni (Kano)	31	13	41.9
Bukuru (Jos)	26	12	46.1
Kasuwar Nama (Jos)	34	10	29.4
<i>Guinea Fowl</i>			
Tarauni (Kano)	7	4	57.1
Bukuru (Jos)	16	8	50
Kasuwar Nama (Jos)	40	35	87.5
Shasha (Ibadan)	12	7	58.3
<i>Duck</i>			
Kasuwar Nama (Jos)	23	17	73.9
<i>Pigeon</i>			
Tarauni (Kano)	15	13	86.66

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was 87.5 %. In 88.9 % of the cases the prevalence rate was above 40 % (table II). The mean titre exceeded 1 : 10 in 67 % of the positive sera.

Discussion

This study reveals a widespread incidence of EDS '76 in poultry and an evidence of EDS '76 in other avian species. This suggests that guinea fowl, ducks and pigeons might also be involved in the overall epidemiology.

Occurrence of EDS antibodies has been reported in non-poultry species such as gulls (1), owls, storks, swans (4), sparrows, and cattle egrets (5). The high prevalence rate of EDS antibodies in guinea fowl, ducks and pigeons gives additional support to the view of BAXENDALE (2), CALNECK (3), VILLEGAS *et al.* (9) and MALKINSON and WEISMAN (5) including these species in the epidemiology of EDS '76. Our findings together with NAWATHE and ABEGUNDE (7) point out the emergence of a relatively new disease problem of the Nigerian poultry industry. It is likely that the diagnosis of EDS '76 has been missed several times in laying flocks since the disease is not as clinically striking as many others.

Conclusion

This study has provided evidence of EDS '76 infection in poultry, guinea fowl, ducks and pigeons in Nigeria. A more comprehensive survey involving each of the States of the federation of Nigeria is desirable to determine more precisely the extent of involvement of the national flock. If results are similar to ours, vaccination against EDS '76 is highly recommended in commercial breeder flocks and layer flocks.

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A sero-epidemiological survey of EDS '76 antibodies was carried out in chickens, guinea fowls, ducks and pigeons in various locations in Nigeria with the haemagglutination-inhibition test. Infection rates of 67.43, 79.68, 73.91 and 86.66 % were obtained for chickens, guinea fowls, ducks and pigeons respectively. The high prevalence rates observed in these non-chicken species suggest that they should be considered as important in the epidemiology of EDS '76 in poultry in Nigeria. An extensive survey is recommended together with vaccination. *Key words* : EDS '76 - Chicken - Guinea fowl - Duck - Pigeon - Haemagglutination - Nigeria.

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Note sur quelques enseignements de la lutte contre la peste bovine au Tchad depuis 1935 *

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VINDRINET (R.). Note sur quelques enseignements de la lutte contre la peste bovine au Tchad depuis 1935. *Revue Elev. Méd. vét. Pays trop.*, 1991, **44** (1) : 38-41

La politique de lutte antipestique au Tchad a connu différentes phases. Celles-ci se sont développées sur des durées suffisamment importantes pour valider éventuellement certains concepts comme celui de l'utilité de la vaccination péri-focale sur des populations non vaccinées antérieurement. Après avoir examiné la fiabilité des données concernant le cheptel, les vaccinations et la pathologie, et rappelé les différents types de vaccins utilisés, on peut conclure que la vaccination péri-focale, même accompagnée de la vaccination systématique des jeunes, n'a pas permis de contrôler la peste au Tchad. Seule la vaccination systématique du cheptel en permet le contrôle puis l'éradication. Un tableau résume les opérations de vaccination et les systèmes de suivi utilisés. *Mots clés* : Bovin - Peste bovine - Vaccin - Vaccination - Epidémiologie - Tchad.

Introduction

Le Tchad a appliqué différentes politiques de vaccination antipestique sur de longues périodes. Cette particularité offre l'avantage de vérifier ou d'invalider leur pertinence. Les concepts techniques qui sous-tendent les politiques sanitaires : vaccination systématique, abattage des animaux dans les foyers, vaccination péri-focale, ont été illustrés à des degrés divers, complétant ainsi les données recueillies dans d'autres pays. Des arguments de terrain démontrent l'efficacité de la vaccination systématique, ainsi que l'intérêt de l'abattage dans les foyers en l'absence de vaccination (moins évident en cas de vaccination). En ce qui concerne la vaccination en anneau, on ne peut identifier, comme seul fondement du concept, qu'un glissement du sens de Ringimpfung**, de

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