Communications courtes

An outbreak of type-C botulism in broiler chickens in Nigeria

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OKOYE (J. O. A.). Apparition du botulisme type-C chez les poulets de chair au Nigeria. *Revue Elev. Méd. vét. Pays trop.*, 1988, **41** (1) : 51-52.
Un élevage de poulets de chair âgés de 8 semaines a soudainement montré des signes de coma, de paralysie des pattes et d'extension du cou. L'autopsie n'a révélé qu'une légère entérite. Des souris inoculées avec le sérum de ces oiseaux infectés sont mortes dans la nuit, tandis que celles qui avaient reçu de l'antitoxine *Clostridium botulinum* type-C sont restées apparemment saines. Par conséquent, le diagnostic du botulisme type-C a été porté. Des foyers de cette maladie sont rarement signalés tant au Nigeria que dans d'autres pays africains.
Mots clés : Poulet - Botulisme type-C - Diagnostic - Nigeria.

Botulism in poultry is a paralytic disease usually associated with ingestion of pre-formed *Clostridium botulinum* toxin in decomposing carcasses and maggots (1, 8). But production of the disease by multiplication of the bacteria and production of the toxin in living birds have been postulated (5, 6, 7). Botulism in birds has been reported from various parts of the world including Great-Britain (1), Brazil (2), Netherlands (4) and the United States of America (5). It does not appear to have been confirmed in many African countries including Nigeria, despite the fact that DOUTRE and CHAMBON (3) described the disease in horses, ruminants and donkeys in Senegal and Mauritania. This report describes an outbreak of type-C botulism in a broiler farm in Nigeria.

Affected was a flock of 3,500 broilers of 8 weeks old located at Nawfia in Anambra State of Nigeria in January 1986. The birds were on deep litter and the farm was producing its own feed until it ran out of some raw materials. Commercial feed was then purchased and fed to the birds which came down with signs of disease and death within 48 hrs the feed was introduced.

The sick birds had their eyes completely or partly closed. They were anorexic and weak. Vent was soiled with whitish watery faeces. Legs were paralysed and the birds were reluctant to move. But when forced, moved on their hocks. Some showed trembling and incoördination at the forced movement. The midly affected ones were turning their necks sideways with the heads often placed on the shoulders. Severely affected birds were comatose, lying prostrate on the sternum with dropping wings, extended neck dropped on the litter and open beaks dipping into the litter (Fig. 1). Some were lying on their sides. Feathers were ruffled and easily removed. Coma was easily followed by death and by 7 days after the onset of the disease over 1,000 birds were dead. Some of them kept for observation in the experimental poultry house began to show signs of recovery on the 10th day of the outbreak. Appetite improved although some frequently closed their eyes. One was repeatedly pecking to collect feed in the feeder without reaching the feed. In the affected farm the sick flock was moved to a new house. Feed and water were changed. Mortality declined and complete recovery occurred 5 days after the movement.

Fig. 1 : Two of the severely affected birds looking comatose with dropped wings and extended neck.

At necropsy, some dead birds showed only catarrhal and often mild haemorrhagic enteritis. Others had no lesions. Samples of the liver, spleen and kidney yielded no growth on bacterial culture.

Serum samples collected from comatose birds were given to young mice at the rate of 0.3 ml per mouse intraperitoneally. All the mice died within 12 hrs after deep and fast abdominal respiration. Sera were then stored at - 20 °C. *Botulinum* antitoxin type-C was obtained 9 months later from Agricultural and Food Research Council Institute of Food Research, Bristol Laboratory, Langford. Ten mice were each given 0.3 ml of the antitoxin containing a total of 3,030 mouse lethal doses neutralizing capacity intraperitoneally. Six hours later only 5 of them were each given 0.3 ml of the bird serum intraperitoneally while another fresh group of 5 were given the same volume of the bird serum intraperitoneally. The experiment was left overnight and by the following morning all the mice that received the sera without the antitoxin were dead while others appeared healthy.

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The diagnosis in this outbreak was based on clinical signs, slight or no necropsy changes and on identification of *Cl. botulinum* type-C toxin in sera of sick birds. The source of the toxin was not identified as neither the feed nor the litter or water was assayed for it. But the failure to isolate *Cl. botulinum* in the organs of the sick birds appears to indicate that the outbreak could be due to ingested pre-formed toxin. It was difficult to attribute the disease to the commercial feed newly introduced in the farm, as similar outbreak was not observed in other farms using the same feed which has a nation-wide distribution. Mildly affected birds which were sleepy and turning their necks sideways could be confused with cases of Newcastle disease which may also show slight or no gross necropsy changes.

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A flock of 8 weeks old broilers suddenly developed signs of coma, paralysis of the legs with neck dropped and extended. Only mild enteritis was noticed at necropsy. Mice inoculated with serum of affected birds died overnight while those given *Clostridium botulinum* type-C antitoxin remained apparently healthy. A diagnosis of type-C botulism was consequently made. Reports of outbreak of this disease appear to be rare in Nigeria and other African countries. *Key words* : Chicken - Type-C botulism - Diagnosis - Nigeria.

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Clinico-pathological aspects of naturally-occurring contagious caprine pleuropneumonia in the Sudan

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ABDELSALAM (E. B.), GORAISH (I. A.), TARTOUR (G.). Aspects clinico-pathologiques d'une pleuropneumonie contagieuse caprine naturelle au Soudan. *Revue Elev. Méd. vét. Pays trop.*, 1988, **41** (1) : 52-54.

Les altérations des constituants hématologiques et du plasma dues à une pleuropneumonie contagieuse caprine naturelle ont été analysées. Les résultats révèlent une réduction significative de la concentration d'hémoglobuline, du volume cellulaire, du taux de globules rouges et de la concentration moyenne globulaire de l'hémoglobine. Le nombre total de globules blancs a augmenté alors qu'aucun changement n'est apparu dans le volume globulaire moyen ou le taux de sédimentation des érythrocytes. La protéine totale du plasma a montré une légère baisse avec une réduction significative de l'albumine et une hausse des concentrations de globulines et de fibrinogènes. L'activité du plasma de l'aspartate amino tranférase a aussi baissé en comparaison aux valeurs normales. *Mots clés* : Caprin - Pleuropneumonie contagieuse de la chèvre - Soudan.

Contagious caprine pleuropneumonia (CCPP) is one of the most serious diseases of goats in the Sudan which causes considerable economic losses amongst farmers and back-yard goat keepers. Although the disease has long been recognized in the country (3) but most investigations were mainly directed toward the isolation, identification, characterization and pathogenicity of the causative mycoplasma (1, 6, 7). However, the principal lesions are now well established (2) and the present report describes some of the heamatological and plasma constituent alterations associated with the naturally-occurring disease.

Heparinized blood samples were collected from 50 adult Nubian goats brought for treatment at the University Veterinary Hospital during the winter outbreak of 1985-86. All animals were showing typical signs including high fever, dullness, anorexia, increased respiration, occasional coughing, dyspnoea and moaning. Control samples were also obtained from apparently healthy goats in the neighbouring farms. The haematological investigations including haemoglobin (Hb) concentration, packed-cell volume (PCV), erythrocyte sedimentation rate (ESR), red and white blood cell (RBC & WBC) counts and differential leucocytic count were performed by standard techniques (4). The plasma activity of aspartate amino transferase (AST) was measured by the method of REITMAN and FRANKEL (9) and expressed as I.U./l.

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