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Erysipelothrix rhusiopathiae INFECTION IN CHUKAR PARTRIDGE *(Alectoris graeca)*

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Abstract: Erysipelas was diagnosed in chukar partridges (*Alectoris graeca*) kept as hunting stock. Mortality was 265 of 500 (53%) over a period of one week.

INTRODUCTION

Erysipelas outbreaks in birds have been reported from an extremely large number of species.[1,2,3] This is the first record of this infection in chukar partridges (*Alectoris graeca*).

On September 27, 1974, several birds from a flock of 500 fifteen-week-old chukars kept for stocking hunt clubs were depressed and reluctant to move. Many had a crusty exudate on the eyelids. Over the next two days, 60 died and a large number of others appeared depressed. Two other chukar flocks, one group two weeks older (17 weeks) and one group two weeks younger (13 weeks) remained normal. The three flocks were in outside pens with wire mesh floors and walls. The groups were separated by approximately 5 cm of wire mesh. The infected flock was between the other two. Approximately 1,500 pheasants were on the same premises. The pheasants showed no signs of the disease. They had previously undergone a major outbreak of *Pasteurella multocida* infection with high mortality in May, 1974. The two other chukar and pheasant flocks remained unaffected during the outbreak. On September 30, three chukar partridges, two live, depressed birds and one dead bird, were submitted for postmortem examination.

MATERIALS AND METHODS

The two living birds were euthanized and all three were necropsied. Samples of heart, liver, spleen and lung from one of the live birds and heart, liver, lung and intestine from the dead bird were inoculated on 5% bovine blood agar and MacConkey agar plates and incubated at 37 C overnight. Sections of heart, lung, spleen, liver, pancreas, kidney, brain, small intestine, trachea, crop and skeletal muscle were fixed in 10% buffered formalin, embedded in paraffin and stained routinely with haematoxylin and eosin. Selected sections were Gram stained.

RESULTS

All three birds had enlarged spleens. Focal, white or hemorrhagic lesions were found throughout the tissues of the spleen. Other internal organs were congested except for the kidneys, and they were pale. None of the birds had eaten recently, but all three were in good condition.

Abundant small, gram-positive bacilli were isolated from the liver of the euthanized birds and the heart and lung of the dead bird. These organisms were catalase negative, produced hydrogen sulfide in triple sugar iron (TSI) medium, fermented lactose and dextrose and produced a "test-tube brush-like" growth in

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gelatin characteristic of *Erysipelothrix rhusiopathiae*. No other pathogens were found.

Microscopic examination of the fixed tissues revealed an abundance of large, slender, gram-positive bacilli in the central vein and sinusoids of the liver, in germinal follicles of the spleen, in blood vessels of the heart and lung, and in glomeruli of the kidneys. Very little inflammatory cell response was seen in most organs. Necrosis of the hepatocytes, with karyorrhexis and vacuolation of their cytoplasm was noted. Excess edema was present adjacent to the sinusoids and some hepatocytes were rounded in shape.

Bacterial emboli were present in most organs examined, including the pancreas, trachea, crop and skeletal muscle.

DISCUSSION AND EPILOGUE

A diagnosis of *Erysipelothrix rhusiopathiae* infection was made from the bacteriologic findings. The owner was advised to treat with two doses of 100,000 I.U. injectable penicillin per bird. Complete separation of the three flocks was suggested. The owner attempted treatment, but found it very inconvenient and costly. Because neither of the other flocks became infected, it was decided to eliminate the affected flock. After the birds were removed, the pens were disinfected and no further disease problem occurred. Some of the infected birds had recovered without treatment.

The high mortality experienced in this flock indicates that erysipelas must be considered a potentially serious infectious disease of captive chukar partridges.

LITERATURE CITED

1. LEVINE, N. D. 1965. Erysipelas in *Diseases of Poultry*, 5th Edition. Pages 461-469. Ed. by H. E. Biester and L. H. Schwarte. Iowa State University Press, Ames, Iowa.
2. ROSENWALD, A. S. and R. E. CORSTUET. 1972. Erysipelas in *Diseases in Poultry*. 6th Edition. Pages 348-359. Iowa State University Press, Ames, Iowa.
3. SHUMAN, R. D. 1971. Erysipelothrix, Chapter 14 in *Infectious and Parasitic Diseases of Wild Birds*. Pages 141-145. Ed. by J. W. Davis, *et al.* Iowa State University Press, Ames, Iowa.

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