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Authors: GATES, N. L., and GREEN, J. S.

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## EPIZOOTIC STREPTOCOCCAL PNEUMONIA IN CAPTIVE COYOTES

N. L. GATES, U.S. Department of Agriculture, Science and Education Administration, U.S. Sheep Experiment Station, Dubois, Idaho 83423, USA.

J. S. GREEN, Brigham Young University, Dubois, Idaho 83423, USA.

**Abstract:** Severe death loss was observed in captive coyotes, *Canis latrans*. Of 48 coyotes in one kennel, 22 (46%) died within a 7 day period. Cause of death was determined to be acute fibrinopurulent (bacterial) broncho-pneumonia and pleuritis. *Streptococcus equisimilis* was isolated from the lungs of two coyotes examined.

### INTRODUCTION

An undifferentiated "pneumonia-like" condition was reported in three wild coyotes (*Canis latrans*) in Kansas.<sup>2</sup> The lungs of all three animals were affected, and one had several pulmonary abscesses. Gier<sup>3</sup> reported respiratory conditions similar to pneumonia in six coyotes during a 15-year period in which over 2000 coyotes were examined. In a recent review of diseases of coyotes, pneumonia was not mentioned specifically.<sup>4</sup> Thus, primary pneumonia in coyotes can be regarded as relatively rare. This report describes an epizootic of pneumonia in captive coyotes.

### CASE HISTORY

Approximately 50 coyotes have been maintained in a conventional kennel for 4 years. Each coyote is confined in an individual outside run connected to a wooden den box inside the kennel building. Runs are separated by chain link fence. Individual coyotes have been in the kennel for 1-4 years. Each coyote has been vaccinated against canine distemper, infectious canine hepatitis, and leptospirosis. The animals are fed commercial dog food. Water is supplied by an automated system. No contagious disease has been diagnosed during the past 4 years.

During a 7-day period in September 1978, 22 of 48 coyotes (46%) died. All 48

coyotes were observed to be anorectic, and stools were scant, darkened and hard. The coyotes received no treatment. Two fresh carcasses were transported to the Veterinary Reference Laboratory Inc., Salt Lake City, Utah, for necropsy. Fixed tissues from a third coyote were examined at the Department of Veterinary Science, University of Idaho, Moscow, Idaho.

### PATHOLOGIC FINDINGS

#### Gross

The two coyotes examined had reddish-brown fluid in the pleural cavity, and there were tags of fibrin on the pleura and pericardium. Abscesses were present in the lungs, particularly in the left lobes. The lungs of one coyote were atelectatic. No gross lesions were observed in other tissues.

#### Microscopic

Lesions from the three coyotes were similar. There was massive necrosis, congestion, and hemorrhage in the lungs and areas of alveolar edema and neutrophilic cuffing of bronchioles were common. Large numbers of coccoid bacteria were prominent in the necrotic lesions and along the pleural margin of the lung sections. The mediastinal tissue contained heavy accumulations of neutrophils, fibrin, and necrotic debris. Adjacent adipose tissue was focally

necrotic. Other tissues and organs were free of significant change.

#### Bacteriologic

Pure cultures of *Streptococcus equisimilis* were isolated from the lungs of two of the affected coyotes.

#### DISCUSSION

On the basis of laboratory findings, deaths were attributed to acute, severe, fibrinopurulent (bacterial) bronchopneumonia and pleuritis.

Pneumonia in coyotes has been mentioned in the literature,<sup>2,3</sup> although epizootics associated with *S. equisimilis* have not been reported. Pathogenicity of *S. equisimilis* in non-canid species is well documented.<sup>1</sup> Considering the high degree of sanitation and care that existed in the affected kennel, the observed epizootic was not expected. Epidemiologic factors related to the epizootic could not be determined and none of approximately 40 other coyotes in an adjacent kennel, outside pens, or metabolism cages inside the affected kennel showed signs of illness or died.

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