

***Klebsiella pneumoniae* as a Cause of Pneumonia and Septicemia in a Civet Kitten (*Civettictis civetta*) in the Jos Zoo, Nigeria**

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ABSTRACT: A fatal case of acute pneumonia and septicemia that occurred in a captive civet kitten (*Civettictis civetta*) in the Jos Zoo, Nigeria is reported. Diagnosis was based on clinical signs, necropsy findings, and the isolation of *Klebsiella pneumoniae* from the lung, intestine, liver and heart blood of the animal. This is the first report of clinical *K. pneumoniae* infection in a wild or captive animal in Nigeria.

Key words: Acute pneumonia, septicemia, civet kitten, *Civettictis civetta*, *Klebsiella pneumoniae*, case history.

Jackson et al. (1980) reviewed the distribution and pathogenicity of *Klebsiella pneumoniae*; it occurs in a variety of environmental sources such as soil and plant matter and in the human alimentary tract. This species is associated with respiratory and urinary infections in man and in a number of wild and domestic animals. Pneumonia and septicemia associated with *Klebsiella* spp. are important diseases in primates (Schmidt and Butler, 1971; Fox and Rohovsky, 1975). There are no documented reports of the isolation or association with disease conditions of *Klebsiella* spp. in wild or captive animals in Nigeria. The present report describes an acute case of pneumonia and septicemia in a civet kitten (*Civettictis civetta*) caused by *K. pneumoniae*.

On 9 March 1987 at about 0800 hr, a 3-mo-old female civet kitten at the Jos Zoo (Nigeria) kept in a squeeze cage with grass chipping bedding was observed to be sick. At 1500 hr it refused food and was unconscious, shaking and foaming from the mouth.

Physical examination showed rapid, labored respiration, evidence of consolidation of the right lung on auscultation and a rectal temperature of 39.4 C. The conjunctival and buccal mucosal membranes were pale. The following morning the civ-

et was still unconscious and its temperature was 40.3 C. The animal's condition subsequently deteriorated; respiration became more rapid and shallow and markedly abdominal. Death occurred 17 hr subsequent to the first signs of illness.

Postmortem examination showed a purulent pneumonia with consolidation of the right apical and cardiac lobes of the lungs and part of the right diaphragmatic lobe. A fibrinous exudate covered the affected visceral and adjacent parietal pleura. The small intestine had ulcerative lesions. There were black necrotic foci scattered in the capsule of the liver, and petechial hemorrhages on the pericardium.

Microscopically, many pulmonary alveolar septae were thickened due to cell proliferation and cellular infiltration. *Klebsiella pneumoniae* was isolated from the lungs, intestinal contents, liver, spleen and heart blood in pure culture on McConkey's and blood agar and identified on biochemical media as described by Carter (1973). Antibiotic sensitivity of the isolate was determined using antibiotic impregnated disks (Oxoid Limited, Wade Road, Basingstoke, Hampshire, England RG24 OPW). The organism was resistant to penicillin, chlortetracycline and erythromycin. It was slightly susceptible to oxytetracycline and tetracycline and fully susceptible to streptomycin and chloramphenicol.

Klebsiella spp. are opportunistic pathogens that cause disease when other factors lower the defense mechanisms of the host (Snyder et al. 1970). It is possible that the development of clinical disease in this civet kitten was precipitated by climatic stress associated with changes in rainfall, relative humidity and temperature at the period of the year when the disease occurred.

The authors are grateful to the Director, National Veterinary Research Institute, Vom for permission to publish this paper.

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Received for publication 22 July 1987.