

Case Report

VALVULAR ENDOCARDITIS IN A CAPTIVE MONKEY IN IBADAN, NIGERIA: A CASE REPORT

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INTRODUCTION

Primates are present in large number in the game reserves and national parks throughout Nigeria and other parts of the world (Ayodele, 1988). Out of these primates, monkeys and baboons seem to be most abundant. The interrelationship between these primates and humans, as relates to disease similarity is of great importance (Tribe and Bassett, 1978). Congestive heart failure which can be due to mural or valvular endocarditis has been found to be a product of a septicæmic condition (Robinson and Maxie, 1985). There have been various reports of the pathology of heart related conditions in primates in different parts of the world (Isoun *et al.*, 1972; McConnell *et al.*, 1974; Levin and Carey, 1986 and Cantrell *et al.*, 1986). However, there is dearth of information on heart related condition in Nigeria (Chineme *et al.*, 1978); hence this report presents a case of valvular endocarditis associated with hepatic necrosis and hemorrhagic pneumonia in a captive monkey (*Cercopithecus torquatus torquatus*) at the University of Ibadan Zoological garden of the University of Ibadan.

KEY WORDS: Monkey, Endocarditis, Ibadan, Nigeria

CASE HISTORY

An adult male monkey of 25 years old was one of the 10 in a colony of monkeys housed at the University of Ibadan Zoo for 23 years. The animal was presented to the Veterinary Teaching Hospital, university of Ibadan with the signs of laboured breathing and epistaxis. The blood oozing from the nostrils was fresh and clotted. The animal later collapsed and died prior to medical intervention.

Pathology and Microbiology

When the animal was necropsied, the carcass was well fleshed, but showed swelling of the right eye. There was bloody discharge from the nostrils; some of the blood was clotted. A thin smear of the bloody discharge stained with giemsa and methylene blue was negative for anthrax bacilli.

The trachea contained blood stained frothy

exudates, while the bronchi were filled with frank blood. The lungs were oedematous and congested with focal areas of haemorrhage. The thoracic cavity contained clotted blood, while about 10 ml of serosanguinous fluid was present in the pericardial sac. The left ventricular wall was flabby and pale with focal yellowish areas. There was an irregularly shaped vegetative growth on the left atrioventricular (mitral) valve of the heart (Plate 1). Haemorrhages were observed in the stomach, duodenum, jejunum and ileum as dark starry contents, while the liver was shrunken with pale, rough and granular surface. The spleen was slightly enlarged.

Specimens of the heart, lungs spleen liver, and intestine were fixed in 10% buffered formalin. These samples were processed for histopathology and stained with haematoxylin and eosin. Histopathologic findings included pulmonary congestion, oedema and

haemorrhages. The macrophages were laden with haemosiderin in the alveoli and its wall. The liver showed areas of diffuse necrosis (Plate 2) with disorganization of hepatic cords. The heart muscles also had areas of necrosis, degeneration, and disorganization. There were neutrophilic infiltrations of the myocardium and bacterial colonies (Plate 3). Samples from the liver and the arterioventricular valve of the heart with vegetative growth and the liver were submitted aseptically for bacterial cultures. Isolates were identified by the methods of described by Carter *et al* (1995) as *Staphylococcus aureus* and *Listeria monocytogenesis*.

Drug sensitivity tests of bacterial isolates using multidisc revealed the organisms to be sensitive to chloramphenicol at 30 mcg, while *Staphylococcus aureus* was also sensitive to gentamycin at 10 mcg.



PLATE 1: Irregularly shaped vegetative growth on the left atrioventricular (mitral) valve of the heart (X2)

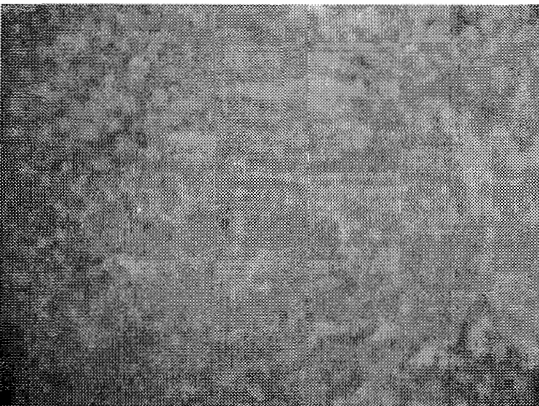


PLATE 2: The liver showed areas of diffuse necrosis (Hematoxylin-eosin stain, 250 X)

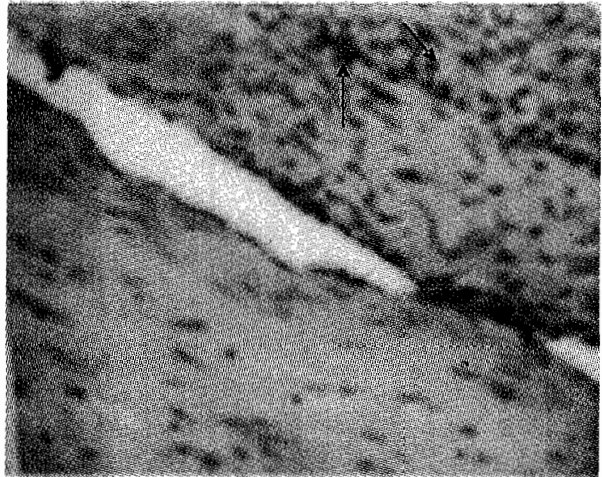


PLATE 3: The valve shows inflammatory cells and bacterial colonies (Hematoxylin-eosin stain, 150 X)

DISCUSSION

Valvular endocarditis has been reported as an uncommon condition in monkeys (Roberts and Innes 1966 and Wood *et al.*, 1978). There has not been documented report of a natural occurrence of this condition in monkeys in Nigeria, previously. The bacteria isolated in this report are similar to those isolated in other parts of the world (Robinson and Maxie, 1985 and Levin and Carey, 1986). The origin of the vegetative endocarditis and its effect in the lungs and liver of animals may not be easily explained, but it has been known to occur as a result of persistent or recurrent bacteraemia (Robinson and Maxie, 1985 and Cantrell *et al.*, 1986).

Pneumonia with left sided congestive heart failure as seen in this report had been reported in a baboon in the United States of America (Levin and Carey, 1986). It has also been reported that congestive heart failure is an important predisposing factor to bacterial pneumonia (Hook, 1979), and it can also develop as a complication of pneumonia (Roth and Gleckman, 1985). In this case, the two conditions were seen in the animal hence the difficulty in determining the initial problem in the dead animal. The marked pulmonary involvement may be the cause of the epistaxis seen and death, as there was presence of blood stained froth in the airway at postmortem.

The antibiotic sensitivities of the bacteria were consistent with the observations of Levin and

Carey (1986). Although the source of the infection in this case is not known, pathogenic bacteria have been isolated from the soil and faeces in white tail deer (McCrum *et al.*, 1967 and Botzler *et al.*, 1986) which corroborated the fact that the soil or faeces could be the source of infection. A disease from which the condition should be differentiated is anthrax which has been reported in captive carnivores and elephants in Nigeria (Ikede *et al.*, 1976 and Okewole *et al.*, 1993). This was excluded by the stained thin smear and bacterial culture. It should then be noted that adequate veterinary care should be provided to primates as they grow in zoos in order to promptly detect infections and adequately institute proper therapy.

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