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Abstract: The livers of more than 100 cheetah from zoos throughout North America were evaluated by light microscopy, histochemistry and electron microscopy. While estrogens can explain some hepatic function abnormalities, they did not appear to be the major cause of this hepatic vascular lesion.

DIETARY CONSIDERATIONS IN THE PATHOGENESIS OF HEPATIC VASCULAR LESIONS IN CAPTIVE CHEETAH

S.J. Gosselin*^{1,4}, M.J. Tarr², W.F. Balistreri³, L.W. Kramer^{4,5},
K.D.R. Setchell³, O.J. Johnston¹, B.L. Dresser^{4,5,6}
Merrell-Dow Research Institute¹, The Ohio State University²,
Children's Hospital Medical Center³, Cincinnati Zoo⁴,
Kings Island Wild Animal Habitat⁵,
University of Cincinnati College of Medicine⁶

The causes of liver disease in captive cheetah are multifactorial and difficult to identify with certainty except for occasional cases of toxoplasmosis, bacterial infections and neoplasia. At necropsy, animals with clinical signs of liver disease (including abnormal clinical chemistry) are often icteric. Although in some cases the liver may be enlarged, it is usually smaller than normal with the presence of abundant fluid in the abdomen.

The livers of more than 100 cheetah from zoos throughout North America were evaluated by light microscopy, histochemistry and electron microscopy. A variety of vascular lesions were observed in these livers: veno-occlusive disease (VOD) was found in approximately 60% of the adult cheetah population, perisinusoidal edema/fibrosis in 12%, peliosis hepatis in 9%, amyloidosis in 7% while feline infectious peritonitis, a relatively frequent infectious disease in cheetah, was present in only 8% of the studied population. The known causes of VOD in the literature are 1) pyrrolizidine alkaloid poisoning, 2) nitrosamine intoxication, 3) irradiation, 4) antineoplastic drugs, 5) immunosuppressive drugs and 6) contraceptive steroids.

Non-steroidal estrogens were found in high concentrations in the commercial feline diet that has been fed to cheetah in many American zoos. While these estrogens can explain some hepatic function abnormalities and could be a contributing factor in the pathogenesis of VOD in captive cheetah, they did not appear to be the major cause of this hepatic vascular lesion. However, the diet should be investigated in more detail since it is the most obvious common denominator in zoos (the cheetah were from more than 20 different zoos) and also because it may help to explain why other exotic cats such as the snow leopard, tiger, cougar, etc. have similar hepatic vascular lesions.

Send correspondence to: Dr. Sylvie J. Gosselin
Cincinnati Zoo
3400 Vine Street
Cincinnati, Ohio 45220