

Capture Myopathy in Spotted Deer

Subjects: Zoology

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Capture myopathy is a noninfectious disease of the muscle associated with capturing or handling of any animals.

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1. Introduction

Capture Myopathy, actually this is not a disease but a condition in which the muscle fibers do not function properly resulting in muscle weakness, muscle damage, muscle cramps, stiffness and spasm. This can be caused by a single factor, but more often follows a series of intertwined events. At a time of capture, the body's reaction to abnormal states such as infection, injury, extreme temperature, or even fear is stress. Stress directly influence the condition of body and results in capture myopathy. Therefore, any professional should be careful during the capture of any wild animals and also attempt to capture should be in less than 2 min^[1].

Different forms of capture myopathy as capture shock, ataxic myoglobinuric, ruptured muscles and delayed per acute death have been reported^[2]. Capture myopathy is also known as white muscle disease^[3] as in this situation the metabolism of the body changes; from using oxygen to using stored energy in the muscle which leads to a buildup of lactic acid and move to the bloodstream where it changes the pH of the body and affects the heart output. As a result, there is alternation in pumping of oxygen to the muscle and the muscle starts to die. Most of the time animal die instantly or survived for a week or a month, but will often die from heart failure^[4].

Some species are more susceptible or prone to capture myopathy such as deer, rabbits, different birds. The study of Chalmers et al. ^[5] shows 594 pronghorns (*Antilocapra american*) captured in Alberta from the year 1971 to 1975 in which 74 animals were transported to enclosures where 20 in captured and 17 in transported animals were died and confirmed capture myopathy which was confirmed based on history, clinical signs, clinico-pathologic findings, and gross and histologic lesions. The study of Ashraf et al ^[4] shows that among the 178 captured spotted deer from 2013 to 2018 in Bangladesh National Zoo, 40 deer were found dead due to capture myopathy and mortality of male deer was higher than the female deer in each year. The study also showed that using the combination of Xylazine HCL (1.0- 1.1 mg/ kg body weight) and Ketamine HCL (2-5 mg/ kg body weight) decrease the chance of capture myopathy.

2. Control/ Prevent Capture Myopathy

There is no specific treatment for capture myopathy. The only treatment is prevention, special care should be adopted in case of handling of any wild animals or specially animals which are more susceptible to capture myopathy and combination of good anesthetic agents helps to cope up with the problems of capture myopathy in spotted deer.

Key Points to control/ prevent capture myopathy:

1. Capture myopathy is preventable, not treatable.
 2. Avoid handling in hot days (Preferable time: Morning or evening)
 3. Handle the animals with care and softly
 4. Application of cold water after capturing to minimize the stress
 5. Use combination of Xylazine HCL and Ketamine HCL as an anesthetic agent
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