

ALTERNATIVE TREATMENT OPTIONS FOR MANAGING HEPATIC LIPIDOSIS IN AN ATLANTIC RIDLEY SEA TURTLE (*Lepidochelys kempii*)

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ABSTRACT

An estimated three year old male Atlantic Ridley Sea Turtle (*Lepidochelys kempii*) was acquired by the Minnesota Zoological Garden in 2006 following rehabilitation for boat strike injuries. Although injuries healed, the turtle was deemed non-releasable due to a persistent state of positive buoyancy and inactivity.

Elevated liver enzymes were first noted on routine blood analysis in the summer of 2008, and were found to be persistent with subsequent testing. In June 2009, a laparoscopic liver biopsy revealed hepatic lipidosis. Diet modification and treatment with S-adenosyl methionine and meloxicam had limited effect.

In October 2010, Artichoke and Milk Thistle, Alpha Lipoic Acid, Omega-3 Fatty Acid and Lecithin (Animal Necessity, LLC, New York, NY) supplements were initiated. After one month of treatment, liver enzymes were noticeably reduced, and by four months, liver enzymes were considered normal. After six months of therapy, a significant change in behavior was noted, characterized by normal diving and swimming activity. Since that time, normal behavior continues and liver enzymes remain within ISIS reference ranges.³

Hepatic lipidosis (excessive lipid accumulation in hepatocytes) is a metabolic derangement predisposed by multiple factors linked to diet, obesity, reduced activity, and seasonal vitellogenesis in reptiles.^{1,2,4} Diagnosis is based on history, serum biochemistry, diagnostic imaging and liver biopsy.^{1,2} Treatment entails correcting dietary or environmental factors, addressing concurrent disease and supporting liver regeneration.

In this case, dietary supplementation with nutraceuticals resulted in dramatic improvements in laboratory values and behavior. This case demonstrates the benefits of alternative therapies in refractory cases.

LITERATURE CITED:

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