male and male both reached complete sexual maturity at≧81 cm SCL. The rates of sexually mature females and males out of all turtles in captivity were estimated to be 15.4% (422) and≧10.6% (≧290), respectively.

The present study, it will also bear particular relevance to protection and management efforts which find it essential to monitor the numbers of turtles and predict the changes in their distributions and behavior.

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The effects of diet, environmental and genetic conditions on lipoprotein levels in F1B hamsters

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Experimental and epidemiological studies have provided strong association between coronary hart disease (CHD), elevated low density lipoprotein (LDL) and reduced high density lipoprotein (HDL) levels. The hamster is a good animal model to study plasma lipid profiles because hamsters provide lipid response to atherogenic stimuli in a fashion similar to humans and develop comparable atherosclerotic lesions. In the present studies, I examined several dietary and environmental atherogenic stimuli in an effort to develop insights to help understand CHD.

From the first experiments regarding the effects of a high saturated, high fat diet on plasma lipid and lipoprotein concentrations, hapatic and intestinal apolipoprotein mRNA levels and stage I atherosclerosis in the F1B strain of hamster, I confirmed that this animal species remains a suitable model for the study of lipoprotein metabolism and atherogenesis.

From the second experiments on the potential for regression of fatty streak lesion by drug (lovastatin) or dietary treatment (low fat diet) in the hamster, I concluded that both treatments are capable of both: 1) preventing elevation of cholesterol levels and inhibiting for formation of foam cells characteristic of animals on a high fat, high cholesterol diets, and 2) inducing regression of fatty streak.

Mediterranean populations display rates of chronic diseases amongst the lowest in the world on spite of consuming diets rich in fat. In the next experiments, I evaluated the effects of olive oil, characteristic of that region, containing β-sitosterol and squalene that could modify the effect of saturated fat and cholesterol of the diet on plasma lipoprotein levels and concluded that β-sitosterol produced a hypocholesterolemic and hypotriglyceridemic effect, while squalene supplement had no measurable effect.

I undertook the next set of studies to determine of photoperiod, caging conditions or age affect lipid metabolism and circulating lipid profiles. Photoperiod affected dietary modification of plasma lipid concentrations in F1B hamsters. Moreover, caging is a significant modulator of these effects.

In the final study I analyzed the differential response on plasma lipids, hepatic and in-

testinal gene expression and HDL subclass distribution in two hamster strains (the F1B and the LVG) to identify the influence and differences that could be attributed to the differences in genetic makeup. A high saturated fat diet was found to induce a more atherogenic lipoprotein profile, consisting of higher triglyceride and lower HDL, in F1B than in LVG hamsters.

In the present studies, I confirmed the value of the F1B hamster as an animal model for physiological, nutritional and pharmaceutical investigations of lipid metabolisms and atherosclerosis in humans while offering new potential insights to understanding this disease.

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