

Measurements were made on male baboons of 5 to 11 kg given for 9 months a natural diet, a sucrose diet, or a starch diet. In baboons on the natural diet total serum lipid was 458, triglycerides 55, total cholesterol 86.3, free cholesterol 22.5, esterified fatty acids 195.6 and phospholipids 125 mg/100 ml. Baboons on starch diet showed no significant change in serum lipids except in cholesterol ester which rose by 15%. With the sucrose diet total serum lipids increased to 600, triglycerides to 90.7, phospholipids to 168, free cholesterol to 31.6, total cholesterol to 94.9, and esterified fatty acids (EFA) to 403.8 mg/100 ml. Total lipids, total cholesterol and EFA were all higher in the liver with sucrose than with the starch diet