

Experimental kwashiorkor and obesity

Oloowokere, J.O; Makawiti, D.W; Konji, VN; Omwandho, C.A

Abstract:

Obesity and kwashiorkor syndrome were experimentally simulated in sprague dawley weaning rats to investigate the changes in energy metabolism and relative organ body weight ratios during over nutrition and under nutrition. Liver mitochondria were used to investigate the oxygen consumption patterns as well as energy(ATP) production capacity. The results of the mitochondria experiment revealed that the oxidation of food substance is poorly coupled to energy production in obesity and kwashiorkor relative to controlled percentage mitochondrial coupling (i.e ATP generation) in obesity and kwashiorkor relative control was 46.9% and 74.6% respectively. In kwashiorkor there was a general decrease in organ body weight ratios except in the brain, kidney and heart where the ratios increased in the order of the brain kidney and heart. However the organ body weight ratios in obese animals showed no marked changes compared to controls