Title: Glutathione and Function in HIV patients

NCT number: 02348775

Date submitted: February 2, 2021

Study Protocol

Participants were studied at the Metabolic Research Unit (MRU) of the Children's Nutrition Research Center, Baylor College of Medicine. They underwent fasting screening lab tests (fasted plasma lipid and liver profiles, blood-urea nitrogen, creatinine, thyrotropin, free-thyroxine, cortisol, glucose, glycosylated hemoglobin, blood counts), and qualifying participants entered into the study. Then they had assessment of physical function, cognitive testing, and body composition. Participants received oral deuterated water (4 g/kg body weight) the night before their MRU visit. They came in after an overnight fast, and intravenous catheters were placed in the dorsum of both hands with one hand used for blood draws (warmed with a heating pad), and the other for tracer infusions. After basal blood sampling, they received tracer infusions of 2H2-glucose (initiated at 21.6 micromol/kg; maintained at 21.6 micromol/kg/h) for 5 h, and 2H3-methylhistidine (initiated at 0.06 micromol/kg; maintained at 0.03 micromol/kg/h) for 3 h. Blood was drawn every 15-min during the final hour of tracer infusions. Indirect calorimetry was performed in the 5th hour, and then a quadriceps muscle biopsy was performed by a surgeon using a sterile, disposable Bard Biopsy System (Bard Instruments, Tempe, AZ, USA). Blood drawn was centrifuged immediately and red blood cells (RBC) and plasma stored at 80C for later analyses. Urine was collected for 6 h during the visit. After study completion, participants were provided a meal and discharged home. Control participants only underwent a baseline study, and were not supplemented. PWH repeated the study protocol after completing 12weeks of GlyNAC supplementation, and again 8 weeks after stopping GlyNAC to determine the washout effects on RBC-GSH, OxS, mitochondrial function, cognition and physical function (but tracer infusions, biopsy, or dual-energy X-ray absorptiometry (DEXA) scan were not done at the 20-week visit).