

RELATIONSHIP BETWEEN TISSUE GLYCOGEN AND POTASSIUM CONCENTRATIONS IN MALNOURISHED CHILDREN. B.L. Nichols*, C. F.

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We previously noted that the myokaliopenia of Marasmic-Kwashiorkor appeared to be a primary cellular adaptation to low protein intake. A correlation between glycogen and potassium concentration has been suggested by previous investigations. The relationship between muscle and liver glycogen concentrations and the potassium concentrations of these tissues has been explored. Liver and muscle potassium concentrations are correlated but glycogen concentrations are independent. Liver glycogen levels tend to become quite high during the initiation of recovery, but are variable in pattern. Muscle glycogen increases with duration of malnutrition and continues to increase during early recovery. The muscle glycogen concentrations were significantly correlated with the glucose clearance rates calculated from the half life of intravenously injected glucose. Muscle and liver potassium concentrations are independent of glycogen concentration. It is concluded that depleted tissue glycogen concentrations are not the cause of the myokaliopenia of malnutrition. (Work supported by: USPHS Grants FR 00188, FR 5425, FR 00259, FR 00254, AM-011285-02 and the Muscular Dystrophy Associations of America, Inc.)

