

## **Changes in test meal size and metabolic abnormalities in response to a carbohydrate preload following liver transplantation.**

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The liver and its innervation have been implicated in the control of ingestive behaviour. This study assessed food intake and subsequent metabolic changes after a pure carbohydrate (CHO) preload in liver (LTx) and renal (RTx) transplant recipients and controls. Fasted subjects were given the CHO preload (250 kcal) and 45 min later offered a test meal (pasta and sauce). Metabolic measurements included energy expenditure, plasma glucose, insulin and lactate. Results post meal were normalised and expressed as AUC per gram of CHO consumed at the meal (mean  $\pm$  SEM). Test meals (g/lean body mass) were smaller but insulin responses were significantly higher in the LTx group ( $238.24 \pm 60.03$ ) than RTx group ( $60.18 \pm 7.63$ ) ( $p < 0.05$ , LTx vs. RTx) but not controls ( $133.56 \pm 27.02$ ). LTx group exhibited higher glucose ( $36.15 \pm 8.38$ ) values compared to RTx ( $13.74 \pm 2.26$ ) and controls ( $17.03 \pm 2.77$ ) although this failed to reach significance ( $p = 0.058$ ). Lactate response in LTx was consistently higher ( $4.153 \pm 0.813$ ) than RTx ( $1.876 \pm 0.288$ ) and controls ( $3.355 \pm 0.607$ ) but did not reach significance. Energy expenditure was related to lean body mass and results indicated no statistical differences between LTx ( $59.81 \pm 12.17$ ), RTx ( $26.79 \pm 2.63$ ) and controls ( $39.79 \pm 6.87$ ). These results suggest that the satiating potency of CHO in LTx is enhanced and gram for gram CHO eaten they show an aberrant metabolic response to feeding which may be a consequence of hepatic denervation and altered autonomic integration following ingestion.