Results There were 405 genes, 3 splicing variants, and 2 promoters that were statistically significantly different between case and control. We detected abnormal thyroid function, impaired myelination, and delayed ossification of the mandible in the poor oral feeder (10^{-5}\text{ < p<10^{-2}}). Genes involved in neurodevelopment, hyperphagia, and adipocyte development were differentially expressed between subjects (10^{-2}\text{< p<10^{-5}}).

Conclusions Targeted comparative RNA sequencing analyses identify global, and patient specific, aberrations in developmental pathways directly related to oral feeding pathology. Our study demonstrates the feasibility of neonatal salivary sequencing for identifying key regulatory genes and pathways that are differentially expressed and regulated between successful and unsuccessful oral feeders, and suggests that this approach will lead to new insights into neonatal pathophysiology.

Conclusions Increased insulin resistance, higher blood pressure and low levels of HDL were associated with increased adiposity among adolescents. It is therefore necessary to screen for elevated blood pressure and hyperlipidemia amongst obese adolescents.

Methods Female Wistar rats were divided into two groups, group 1 (Control, n=7) rats were injected with saline (ip), whereas group 2 (DMTU, n=7) rats were injected with 500 mg/kg DMTU (ip) and an additional dose of 125 mg/kg DMTU 8 h after.

Results DMTU administration induced a ~3 times increase in daily urine volume (p<0.001) and decreased urine osmolality to ~35% of controls (p<0.0001). DMTU also increased free water clearance (p<0.0001) without a significant change in osmolar clearance. DMTU treatment caused an increase in urea clearance (p<0.05) and fractional excretion of urea (p<0.05) with a decrease in serum urea concentration (p<0.001). DMTU had no effect on creatinine clearance or serum electrolytes, creatinine levels and osmolality.

Conclusions We report for the first time that DMTU has a prominent diuretic effect with increased urea excretion, which may be explained by the inhibitory effect of the drug on urea transporters. Our findings suggest that DMTU may be used as a diuretic agent and also could be used as a lead compound for development of a novel group of diuretics.

Background and Aims Obesity plays important roles in urinary concentrating mechanisms in the kidney by contributing greatly in development of the metabolic syndrome in children and adults. The diagnosis of metabolic syndrome were defined according to modified WHO criteria adapted for children. Each subject was submitted to an oral glucose tolerance test. Obesity and type 2 diabetes rates in parents of cases, were %42.8(30 cases) and %12.8 (9 cases) respectively. According to homeostasis model assessment insulin resistance (HOMA-IR) index, insulin resistance was determined %38.5 (66 cases). In our study birth weight, duration of breast-feeding weren’t association with metabolic syndrome and insulin resistance.

Results Among the adolescents in our study 47 were obese. Obese adolescents had a higher systolic and diastolic blood pressure (p<0.001 and p: 0.04 respectively), higher blood levels of fasting insulin (p<0.001) and lower High Density Lipoprotein (HDL) (p:0.01) compared to non-obese. Insulin resistance and insulin sensitivity indexes were associated with obesity (HOMA-IR, p<0.001, QUICKI p<0.001).

Conclusions Increased insulin resistance, higher blood pressure and low levels of HDL were associated with increased adiposity among adolescents. It is therefore necessary to screen for elevated blood pressure and hyperlipidemia amongst obese adolescents.

Background and Aims Overweight and obesity in children and adolescents have become a major public health problem in recent years. The prevalence of metabolic syndrome in childhood increases in parallel with the high prevalence of obesity in children. The metabolic syndrome was defined as having at least three of the following: abdominal obesity, low high-density lipoprotein (HDL) cholesterol, hypertriglyceridemia, hypertension, and/or impaired glucose tolerance. Insulin resistance is the principal metabolic abnormality that is common to the development of the metabolic syndrome in children and adults.

Methods Male and female Wistar rats were divided into two groups, group 1 (Control, n=7) rats were injected with saline (ip), whereas group 2 (DMTU, n=7) rats were injected with 500 mg/kg DMTU (ip) and an additional dose of 125 mg/kg DMTU 8 h after.

Results DMTU administration induced a ~3 times increase in daily urine volume (p<0.001) and decreased urine osmolality to ~35% of controls (p<0.0001). DMTU also increased free water clearance (p<0.0001) without a significant change in osmolar clearance. DMTU treatment caused an increase in urea clearance (p<0.05) and fractional excretion of urea (p<0.05) with a decrease in serum urea concentration (p<0.001). DMTU had no effect on creatinine clearance or serum electrolytes, creatinine levels and osmolality.

Conclusions We report for the first time that DMTU has a prominent diuretic effect with increased urea excretion, which may be explained by the inhibitory effect of the drug on urea transporters. Our findings suggest that DMTU may be used as a diuretic agent and also could be used as a lead compound for development of a novel group of diuretics.