

 **Mother's vitamin D level linked to birth weight** (*JCEM 2013 98: 398-404*)

Mothers' vitamin D levels at a gestation of 26 weeks or less were positively related to birth weight and head circumference, and, in the first trimester were negatively associated with risk of a baby being born small for gestational age, according to this study. The major source of vitamin D for children and adults is exposure to natural sunlight. Very few foods naturally contain or are fortified with vitamin D. Previous studies have shown inconsistent associations between maternal vitamin D status and fetal size. In this study, researchers examined 2146 women delivering term, live births with vitamin D levels measured at a gestation of 26 weeks or less. Birth weight was measured just after birth and infant head circumference and placental weight were measured within 24 hours of birth. The study found that a mother's vitamin D level, in the first or second trimester of pregnancy, was related to the normal growth of babies who delivered at term. If a mother was vitamin D deficient, the birth weight of her baby was 46 g lower after accounting for other characteristics of the mom. Also if moms were vitamin D deficient in the first trimester, they had twice the risk of delivering a baby that suffered from growth restriction during the pregnancy. The authors further suggest that randomized trials that supplement pregnant women with vitamin D are needed to test this finding.


 **A large study on propranolol therapy in infantile hemangioma** (*Pediatric Dermatology DOI: 10.1111/pde.12046*)

The study reports the observations after propranolol therapy in 109 Chinese patients with infantile hemangioma. Response to treatment was favorable; 19 (17.4%) showed total regression, 89 (81.7%) partial regression, and 1 (0.9%) had no response. Twenty-three patients (21.1%) had some reactions, possibly due to the medication, but no life-threatening adverse effects were observed. Propranolol therapy for infants with hemangioma is a serendipitous discovery that is changing the way infantile hemangioma are being managed. This large study shows that even though it is useful in almost all infants, a majority undergo only partial regression. The effect is seen to be most pronounced after the first dose. Monitoring for side-effects including hypoglycaemia should be considered when starting infants with the suggested dose of propranolol of 1 mg/kg/day in three divided doses.

 **Metformin improves blood glucose levels and BMI in very obese children** (*JCEM 2013 98: 322-329*)

Metformin therapy has a beneficial treatment effect over placebo in improving body mass index (BMI) and fasting glucose levels in obese children, according to this study.

Childhood obesity has increased globally over the last two decades and it is linked to an increase in the diagnosis of type 2 diabetes in childhood, previously a condition that was only diagnosed in adults. Metformin is a first line drug for type 2 diabetes, and has been used for many decades. In adults metformin delays the onset of type 2 diabetes, but there is no evidence that the drug has a similar effect on children. This prospective, randomized, double-blind, placebo-controlled trial was conducted at six pediatric endocrine centers in the United Kingdom and involved 151 obese children and young people with hyperinsulinemia and/or impaired fasting glucose or impaired glucose tolerance. Study participants received either metformin or placebo daily for six months. There was a significant reduction in BMI, fasting glucose and adiponectin to leptin ratio (ALR) in the treated group as compared to the children taking placebo. The study showed reduction in BMI was sustained for six months. This trial is the largest of its kind to focus on metformin in obese non-diabetic children and young people. The authors conclude that metformin can improve BMI and blood glucose levels in obese children, but longer term effects such as reduction in the incidence of type 2 diabetes need further study.

 **Predicting postconcussion syndrome after mild traumatic brain injury in children and adolescents who present to the emergency department** (*Arch Pediatr Adolesc Med. 2012 Dec 17:1-6*)

To determine the acute predictors associated with the development of postconcussion syndrome (PCS) in children and adolescents after mild traumatic brain injury. Retrospective analysis of a prospective observational study was carried out in the Pediatric emergency department (ED) in a children's hospital. Four hundred six children and adolescents aged 5 to 18 years with closed head trauma were included. The Rivermead Post Concussion Symptoms Questionnaire administered 3 months after the injury. Of the patients presenting to the ED with mild traumatic brain injury, 29.3% developed PCS. The most frequent PCS symptom was headache. Predictors of PCS, while controlling for other factors, were being of adolescent age, headache on presentation to the ED, and admission to the hospital. Patients who developed PCS missed a mean (SD) of 7.4 (13.9) days of school. Adolescents who have headache on ED presentation and require hospital admission at the ED encounter are at elevated risk for PCS after mild traumatic brain injury. Interventions to identify this population and begin early treatment may improve outcomes and reduce the burden of disease.

**Gaurav Gupta**  
drgaurav@charakclinics.com