

00079 **Impact of Elective and Emergency Caesarean Section on Early Childhood Overweight at 12 Months of Age**

Cai Meijin¹, Loy See Ling², Tan Kok Hian², Keith Godfrey³, Peter Gluckman⁴, Chong Yap-Seng⁵, Shek Lynette Pei-Chi⁵, Cheung Yin Bun¹, Lek Ngee², Lee Yung Seng⁵, Chan Shiao-Yng⁵, Chan Kok Yen Jerry¹, Fabian Yap², Ang Seng Bin²

¹Duke-NUS Medical School, ²KK Women's & Children's Hospital, ³University of Southampton, ⁴University of Auckland, ⁵National University of Singapore

Aims: Global caesarean section (CS) rates have more than doubled over the past two decades, with increasing contribution from elective CSs performed on maternal request. CS has been linked to childhood overweight and obesity, but limited studies have examined emergency and elective CSs separately. This study examined if emergency or elective CS was associated with infant weight status at age 12 months.

Methodology: 727 infants from the GUSTO (Growing Up in Singapore Towards healthy Outcomes) mother-offspring cohort in Singapore were studied. Delivery mode was obtained from clinical records. Infants' anthropometry were measured at age 12 months; BMI-for-age zscores (BAZ) were calculated based on the 2006 WHO Child Growth Standards. High BMI weight statuses "at risk of overweight" and "overweight" were defined according to BAZ >1 SD. Associations were analyzed with multivariable logistic regression models.

Result: 30.5% of infants were born via CS, of which 33.3% were elective. Prevalence of at risk of overweight (1 SD <BAZ ≤2 SDs) and overweight (BAZ >2 SDs) at age 12 months was 12.2% and 2.3% respectively. Elective CS was significantly associated with at risk of overweight/overweight at age 12 months after adjusting for maternal ethnicity, age, education, BMI, parity, antenatal smoking, hypertensive disorders of pregnancy, gestational diabetes, and infant birth weight-for-gestational age (OR 2.04; 95% CI 1.08-3.87; P=0.028). This association persisted after further adjustment for intrapartum antibiotics and infant feeding during first 6 months, two potential mediators of early childhood overweight/obesity (OR 2.00; 95% CI 1.05-3.84; P=0.036). No significant associations were found for emergency CS. Multiple imputation for missing covariates (n = 229) yielded similar results.

Conclusion: Our study suggests that choice of delivery mode may influence early childhood overweight. Healthcare providers are encouraged to discuss potential future implications of elective CS on child metabolic outcomes with patients of childbearing intentions.