**Introduction**

We aim to develop an updated gestational age specific birthweight reference of Hong Kong Chinese newborns to provide norms for identification of small and large for gestational age (SGA and LGA) fetuses, and to compare it with previously published local studies in the past 3 decades as well as a recent study conducted in Guangzhou, southern China.

**Methods**

All singleton Chinese livebirths delivered in the United Christian Hospital from 1st January, 2012 to 31st December, 2017 were retrospectively included. The smoothed birthweight centiles at each gestation were computed. The birthweight centiles were then compared with previous local studies, and the percentage of pregnancies in the present cohort that would be classified as SGA and LGA according to each of these studies was compared.

**Results**

A total of 25,208 livebirths between 25 and 42 weeks of gestation were enrolled in the final analysis. The mean birthweights of our cohort were largely similar to previous studies at each gestation. However, the 10th and 90th centile ranges differed significantly, so that the proportion of babies that would be classified as SGA or LGA varied widely across different studies. In particular, growth curves from older local studies tend to under-estimate the number of SGA babies, while the centiles of the Guangzhou study apparently most closely resembled our data in absolute birthweight values at various gestations.

**Conclusion**

Utilizing an updated local growth curve as reference should offer more precise cut-off centiles for defining SGA and LGA babies in clinical management.