NEONATAL, INTRAUTERINE OR CUSTOMISED BIRTH WEIGHT STANDARDS TO PREDICT COGNITIVE AND SCHOOL OUTCOMES IN VERY PRETERM CHILREN. DATA FROM THE EPIPAGE COHORT STUDY

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Background: Being born small for gestational age (SGA) is associated with developmental disabilities but associations may vary depending on the definition of SGA.

Aim: To analyse the impact of this definition on the relation between SGA and cognitive or school outcome.

Methods: 980 singletons born before 33 weeks in 1997 in France, part of the Epipage study, free of cerebral palsy, were classified SGA when birth weight was $< 10^{th}$ percentile, according to 3 French standards: 1. neonatal standard: nSGA or nAGA; 2. intrauterine standard using Hadlock's formula: fSGA or fAGA; 3. customised standard taking into account maternal characteristics: cSGA or cAGA.

Outcomes were cognitive dysfunction at age 5 defined as a score < -1 SD for the term control group (K-ABC battery), and school difficulties at age 8.

Results: 149 children were nSGA (15.2 %), 368 fSGA (37.6 %) and 378 (38.6 %) cSGA. All nSGA children were fSGA and cSGA. Cognitive dysfunction was present in 300 children (35.0 %) and school difficulties in 173 (25.1 %). Children nAGA/fSGA did not have a significant increase of cognitive dysfunction compared to children nAGA/fAGA. Compared to children nAGA/fAGA, children nSGA/fSGA had an adjusted OR of school difficulties of 2.48 [1.52;4.05] while it was 1.63 [1.05;2.55] for children nAGA/fSGA. Children fAGA/cSGA (N=18) had a higher rate of school difficulties compared to children fAGA/cAGA (p=0.03).

Conclusions: Intratuerine standard for birth weight is more appropriate than neonatal one to predict school outcome for very preterm singletons. The utility of customisation should be clarified.