Introduction

The incidence of small for gestational age (SGA) births (weight < 2SD from the mean) varies among populations with an estimate of 10% of term infants in developed countries compared with 10%-30% of term infants in developing countries (Figures 1,2). Infants born SGA are at increased risk of perinatal morbidity and mortality, developmental disabilities, metabolic alterations (diabetes mellitus type 2, hypertension and hyperlipidemia) in later life and tendency for persistent short stature.

Methods

Our cohort included the registry of all 43,307 live babies born at Hadassah hospitals between 2008-2011. SGA was defined according to the 2005 Dolberg's (birth weight<2SD) table for Israeli newborns (similar to WHO parameters). Our calculated birth weight percentiles were compared to the nationally/internationally used percentile data (NUPD). Follow-up measurements of height and weight were obtained in mother and child centers or at the pediatrician.

Results

Out of 43,307 live births at the hospital study only 524 babies (1.2%) were SGA (52% of expected) (Fig 5) approximately 132 out of each 10,000 births. This finding was repeated in every one of the four consecutive years that were examined. Birth weight percentile comparisons showed that 1st and 5th percentile weights in our cohort were significantly (20%) higher while the 95th and 99th percentiles were 5% lower than the NUPD.

CUG parameters (available for 447/524 SGA) indicated that 427 (95.7%) had CUG (height >2.5 SD below the mean: Table 2). CUG rate among term SGA infants was even higher (Fig 7). When catch up growth was defined as a standardized height that is greater than +2.0 (SD) 91.3% of the children performed adequately catch up growth (Table 2, Fig 6).

Conclusions

- The actual number of SGA newborns is nearly half of the expected according to the current WHO/NUPD criteria- only 1.2%.
- The incidence of infantile CUG in SGA infants reaches 95.7%, significantly higher than in previously reported series.
- This study redefines the incidence and the growth pattern of SGA children and should influence the postnatal preventive care practices and complications management of this high risk population.
- Given the impact of our data on health cost planning and GH requirements in SGA babies, it is recommended that similar large European and American cohorts will be conducted to re-determine the incidence of SGA births, catch up growth and standard deviations amplitudes.

References