

# Leptin and IGF-I/II during the first weeks of life determine body composition at 2 years in infants born with very low birth weight

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Rapid early growth is associated with adverse metabolic outcome. The aim of this study was to determine whether there are differences in body composition (BC) between very-low-birth-weight preterm (VLBWPT) infants born appropriate for gestational age (AGA) and small for gestational age (SGA) and whether these differences relate to first-year growth. Twenty-six VLBWPT (15 AGA and 11 SGA). The BC was analyzed by dual X-ray absorptiometry at 2 years, and insulin-like growth factors (IGFs) I and II and leptin were administered weekly for 8 weeks and at 1, 3, 6, and 12 months. At 24 months, the VLBW SGA infants were lighter and had less peripheral fat and lean mass than VLBW AGA infants. In all patients, the percentage of fat mass correlated inversely with the change in weight [standard deviation scores (SDS)] from newborn to 2 and 4 weeks and the 1-month leptin and lean mass (SDS) correlated inversely with the change in weight (SDS) from newborn to 2, 4, and 8 weeks and with 4-week IGF-I a