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Titel des Beitrags: Effect of reducing the n-6/n-3 fatty acid ratio on the maternal and fetal leptin axis in relation to infant body composition.

Abstract: To investigate the effect of reducing the n-6/n-3 fatty acid ratio in maternal nutrition on the maternal and cord blood leptin axis and their association with infant body composition up to 2 years. 208 healthy pregnant women were randomized to either a dietary intervention to reduce the n-6/n-3 fatty acid ratio from 15th week of gestation until 4 months postpartum or a control group. Leptin, soluble leptin receptor and free leptin index were determined in maternal and cord plasma and related to infant body composition assessed by skinfold thicknesses up to 2 years. The intervention had no effect on either the maternal or fetal leptin axis. Maternal leptin in late pregnancy was inversely related to infant weight and lean body mass (LBM) up to 2 years, after multiple adjustments. Cord leptin was positively related to weight, body fat, and LBM at birth, and inversely associated with weight, BMI, fat mass, and LBM at 2 years and weight gain up to 2 years. The contribution of cord leptin to infant outcomes was overall stronger compared with maternal leptin. Both, maternal and fetal leptin were associated with subsequent infant anthropometry with a greater impact of fetal leptin.

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