LGA-newborn from patients with pregestational obesity present reduced adiponectin-mediated vascular relaxation and endothelial dysfunction in fetoplacental arteries

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© 2018 Wiley Periodicals, Inc. Maternal obesity is associated with large-for-gestational-age (LGA) neonates and programming of obesity-related cardiovascular disease in the offspring, however, the mechanisms that lead to the later are unclear. Presently, interpretations of NO-dependent changes in vascular function in LGA newborn from obese mothers are conflicting. Adiponectin improves endothelial function by increasing eNOS activity and NO production. We propose that LGAs from obese mothers present a diminished vascular response to adiponectin; thus, affecting eNOS and AMPK activation. Chorionic arteries, umbilical cord and primary cultures of umbilical artery endothelial cells (HUAEC) were collected at term (>38 weeks) from uncomplicated singleton pregnancies of LGA and adequate-for-gestational (AGA) newborn. Vascular reactivity of chorionic plate arteries was assessed by wire myography. mRNA expression of adiponectin receptors 1 (AdipoR1) and AdipoR2 in HUAEC was determined by qPCR.