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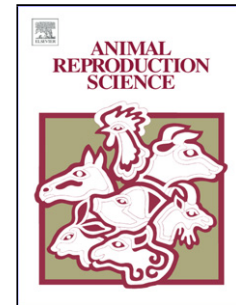
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Effects of maternal obesity on maternal and fetal plasma concentrations of adiponectin and expression of adiponectin and its receptor genes in cotyledonary and adipose tissues at mid- and late-gestation in sheep

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ABSTRACT

Adiponectin potentially influences fetal weight by altering insulin signaling and trans-placental amino acid and glucose transporters. The objective of this study was to determine how maternal obesity influences maternal and fetal plasma concentrations of adiponectin, expression of fetal adiponectin, its receptors, and adipogenic genes at mid- and late-gestation. Blood samples and tissues were collected from obese and control multiparous pregnant ewes at day 75 or 135 of gestation. Although day of gestation or maternal obesity did not influence ($P > 0.6$) maternal plasma concentrations of adiponectin, fetal weight was increased ($P < 0.001$) and adiponectin tended to decrease ($P = 0.10$) at mid-gestation in fetuses from obese ewes. Differences were not apparent at late-gestation ($P > 0.70$). Relative abundance of adiponectin ($P = 0.01$), AdipoR2 ($P = 0.04$) and PPAR γ ($P = 0.01$) mRNA was less at mid-gestation in fetal adipose tissue from

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