

Impact of assisted reproduction on genomic imprinting

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An estimated 48.5 million couples worldwide are unable to conceive after 5 years of unprotected sex. For these couples, medically assisted reproductive technologies (ARTs) represent their best chance to conceive. However, ARTs carry an increased risk of perinatal complications, including preterm birth, intrauterine growth restriction, and low birth weight. ARTs have also been linked to imprinting disorders such as Angelman Syndrome, Beckwith-Weidemann Syndrome and Silver-Russell Syndrome. These morbidities may relate to when ARTs are used during oogenesis and preimplantation embryos, disrupting epigenetic remodeling during these developmental windows. In this presentation, I will present our data on the effects of superovulation or embryo culture of imprinted methylation in oocytes and early embryos.