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1º SIMPÓSIO INTERNACIONAL de DOHaD e Pandemia: LIÇÕES DO COVID-19
10, 11 e 12 de Maio 2023
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METFORMIN DURING ADULTHOOD CANNOT ATTENUATE THE HARMFUL EFFECTS OF NEONATAL OVERNUTRITION

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Under- or overnutrition, during critical periods of development, lead to the development of obesity and cardiometabolic dysfunction later in life in rats that have been programmed for the development of metabolic dysfunction in a litter reduction model. On day 1, all litters are standardized to 9 pups per dam and on day 3 after birth, litters were adjusted to 3 pups per dam in the small litter group (SL) and the NL group remained with 9 animals. At 70 days of age, the animals were separated into 2 new groups: Saline (SAL) and Metformin (MET). For 12 days, the NL and SL animals were treated daily with saline, giving rise to the NL-SAL and SL-SAL groups, or were treated with Met 100mg/kg/day, giving rise to the NL-MET and SL-MET groups. The treatment ended at 82 days of age and the animals were taken up to 142 days of life. Body weight remained significantly higher in SL compared to NL animals up to 142 days ($p<0.0001$), with no significant difference in relation to treatment. And the same was observed in relation to glucose intolerance and insulin resistance ($p<0.0001$). We can conclude that short-term treatment with metformin did not attenuate the metabolic dysfunction induced by neonatal overnutrition.

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