

# Replacement of the neonatal leptin surge during maternal deprivation normalizes some endocrine parameters but exacerbates others

Mela V<sup>1</sup>, Lopez-Rodriguez AB<sup>1</sup>, Peñasco S<sup>2</sup>, Barrios V<sup>3</sup>, Argente J<sup>3</sup>, Viveros MP<sup>1</sup>, Chowen JA<sup>3</sup>

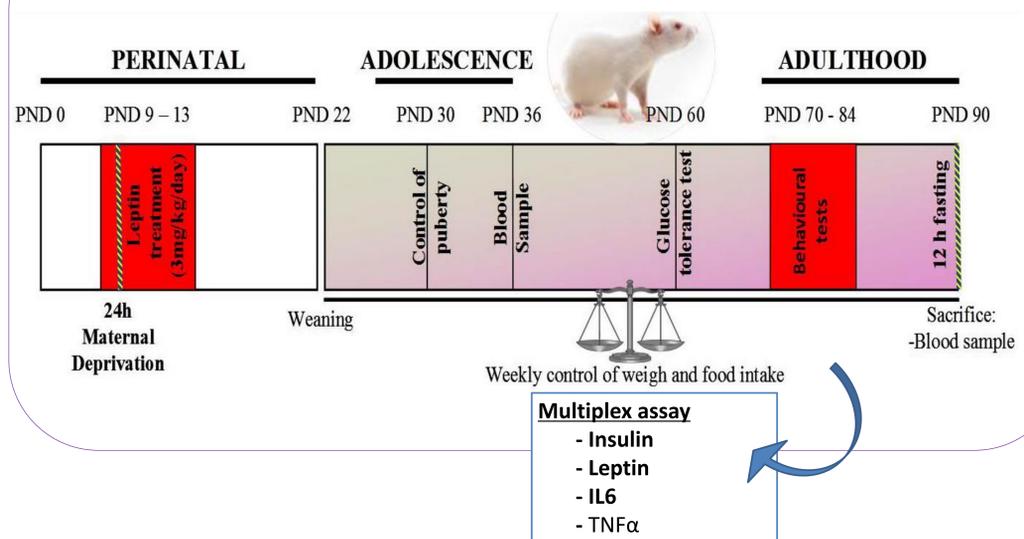
<sup>1</sup>. Department of Physiology (Anim Physiol II), Faculty of Biology, Complutense University, Madrid, Spain; <sup>2</sup>. Department of Neuroscience, Faculty of Medicine and Odontology, UPV, Bilbao, Spain; <sup>3</sup>. Department of Endocrinology, Hospital Infantil Universitario Niño Jesús, Department of Pediatrics, Universidad Autónoma de Madrid, CIBERobn Instituto Carlos III, Madrid, Spain

## Introduction

Maternal deprivation (MD) during neonatal life has diverse long-term effects, including modification of metabolism. Some of these effects are sexually dimorphic. We have previously reported that MD in rats blocks the physiological neonatal leptin surge, which could underlie at least some of the long-term metabolic changes.

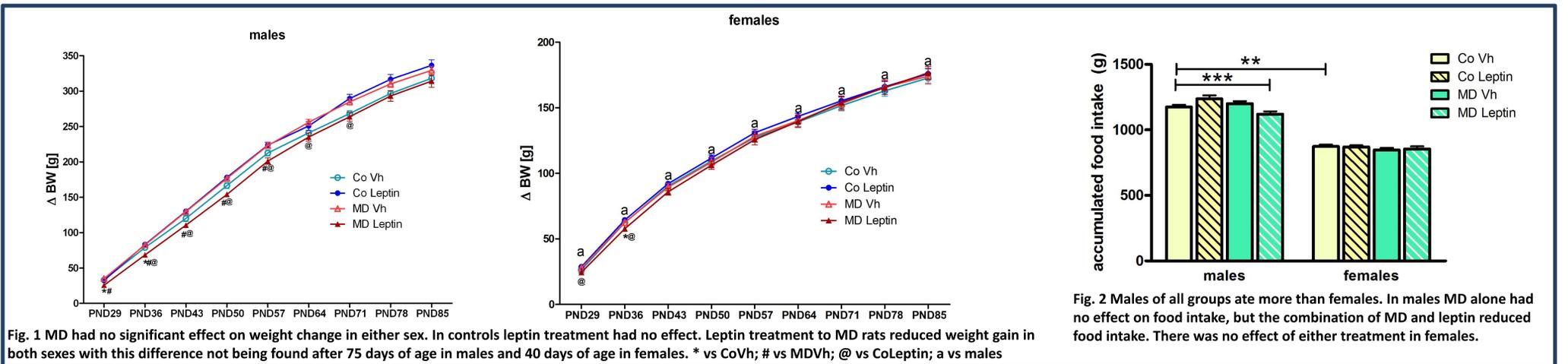
**Hypothesis:** We hypothesized that replacement of leptin during MD would normalize long-term endocrine changes.

## Methods

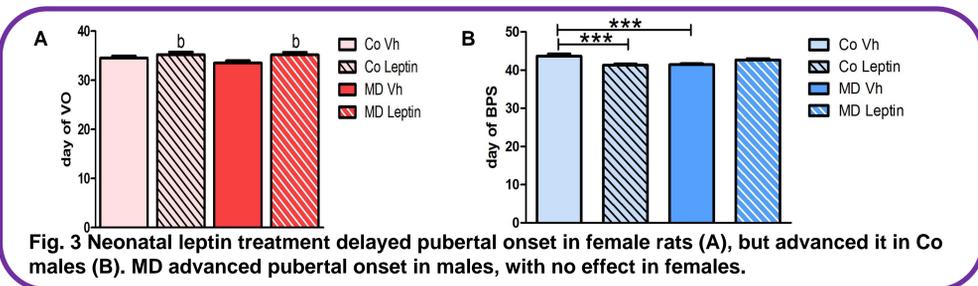


## Results

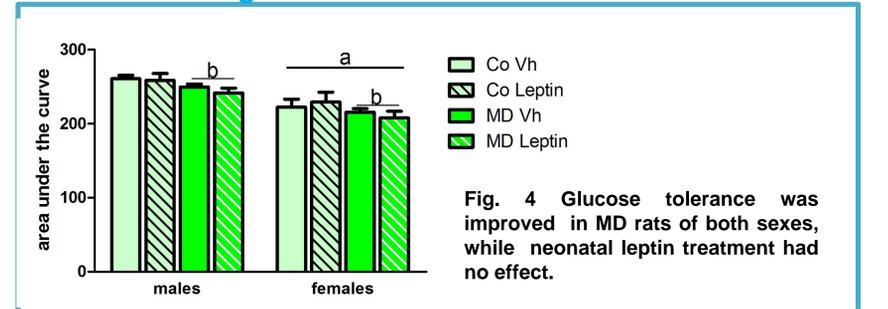
### Weight and food intake



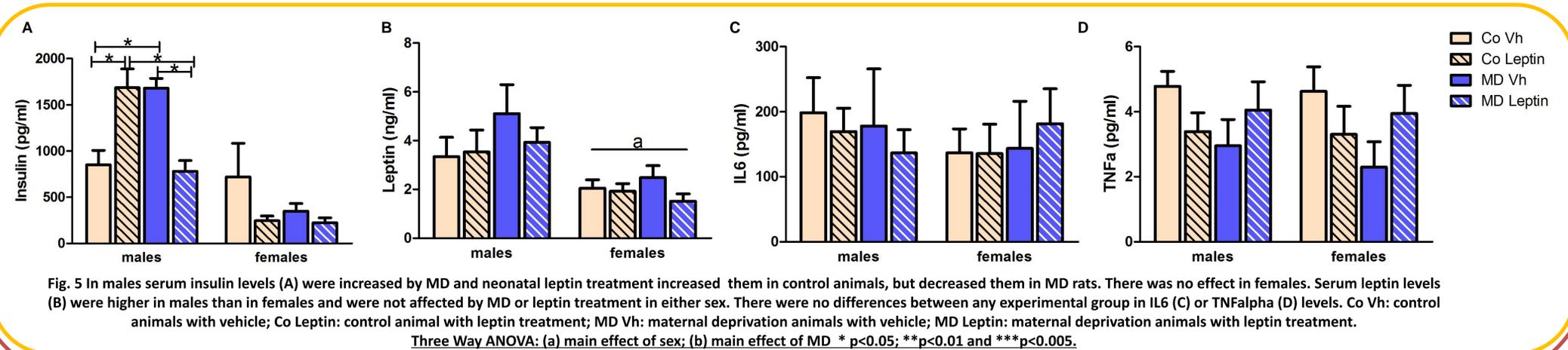
### Pubertal onset



### Oral glucose tolerance test



### Serum



## Conclusion

Neonatal leptin treatment of MD rats normalizes some of the endocrine parameters disrupted by this manipulation, but exacerbates other changes. Hence, the factors inducing long-term changes are most likely multiple with diverse interactions.