Impact of fetal programming by two weaning strategies on the development and reproductive performance of Nelore heifers

Thiago Kan Nishimura [1], Ana Clara Degan Matos[1],Germán Darío Ramírez Zamudio[2], Gabriela Abitante[2], Isabella Rio Feltrin[1], Leonardo Soares Locoselli[1], Ana Julia Amaral Hayashida[2], Rodrigo Silva Goulart[2], Reuel Luiz Gonçalvez[3], Paulo Roberto Leme[2], Guilherme Pugliesi[1]

[1]Department of Animal Reproduction, School of Veterinary Medicine and Animal Science, University of São Paulo
[2]Department of Animal Science, Faculty of Animal Science and Food Engeniering, University of São Paulo
[3]Biogenesis Bagó, Curitiba, Paraná, Brazil
e-mail: thiagokan@usp.br

INTRODUCTION

Objective: **Evaluate the fetal programming effects by the early weaning (150 days) on the development and reproductive performance of Nelore heifers.**

MATERIAL AND METHODS

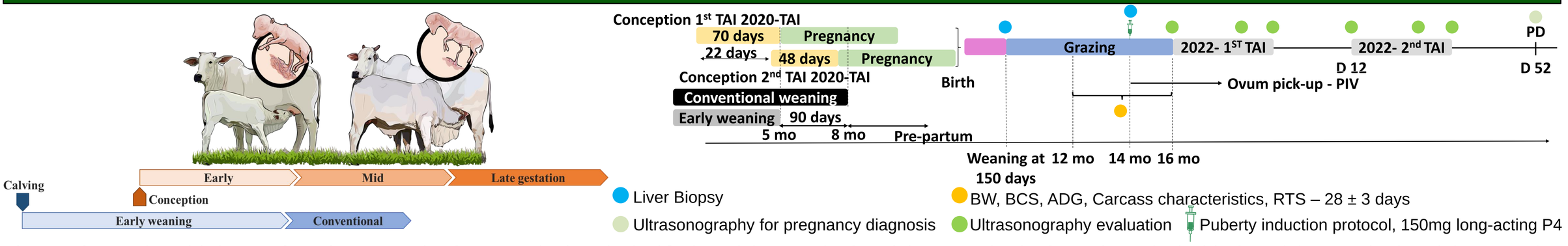

Fig 1. Panel A: Experimental design, **55 Nelore calves** were used: 30 from Conventional weaning (**CW**) [15 from Primiparous and 15 from Pluriparous cows) and 25 from Early Weaning (**EW**) (10 from Primiparous and 15 from Pluriparous cows).

RESULTS

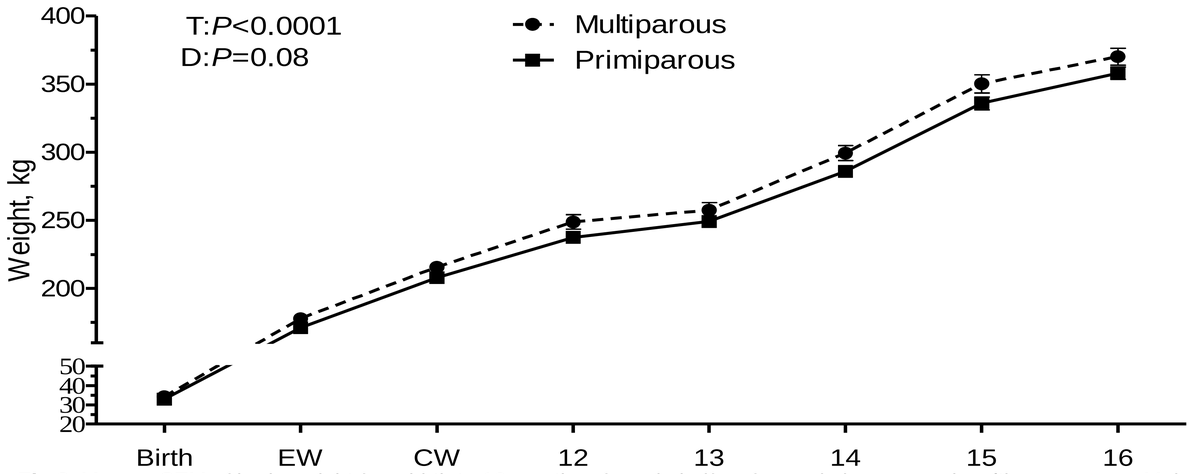

Fig 2. Mean ± SEM of body weight from birth to 16 months of age in heifers from primiparous and multiparous cows. Main effects of time (T), and dam´s parity (D) that were significant (*) or approached (#) significance are shown.

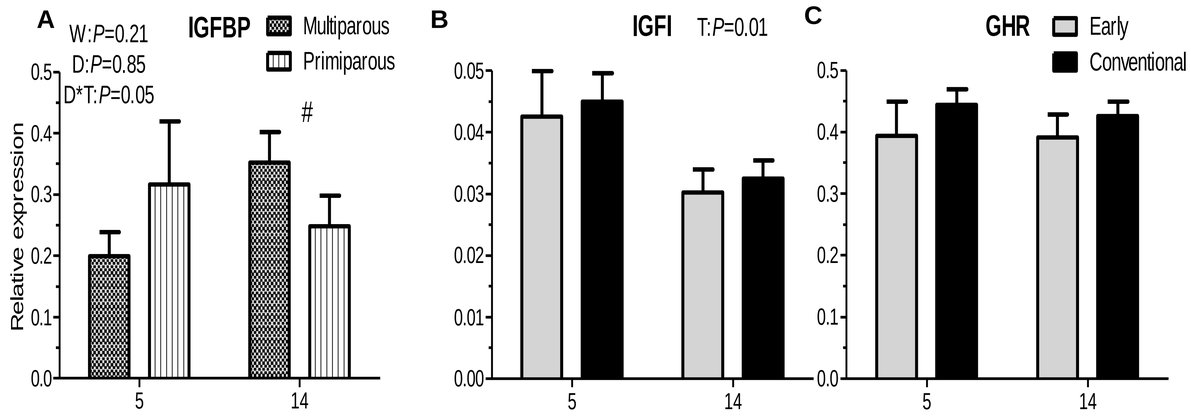

Fig 5. Mean ± SEM of liver gene expression at 5 and 14 months of age in heifers from primiparous and multiparous cows (**Panel A and B**), and in heifers from early and conventional weaning (**Panel C**). Main effects of time (T), dam´s parity (D), and interactions (D*T) that were significant (*) or approached (#) significance are shown.

Fig 3. Mean ± SEM of body condition score (**Panel A**) from 12 to 15 months and Subcutaneous fat thickness (**Panel B**) in heifers from primiparous and multiparous cows. Main effects of time (T), dam´s parity (D), and interactions (D*T) that were significant (*) or approached (#) significance are shown.

Fig 6. Mean ± SEM of reproductive tract score and ovary score from 12 to 14 months of age in heifers from primiparous and multiparous cows. Main effects of time (T), and dam´s parity (D) that were significant (*) or approached (#) significance are shown.

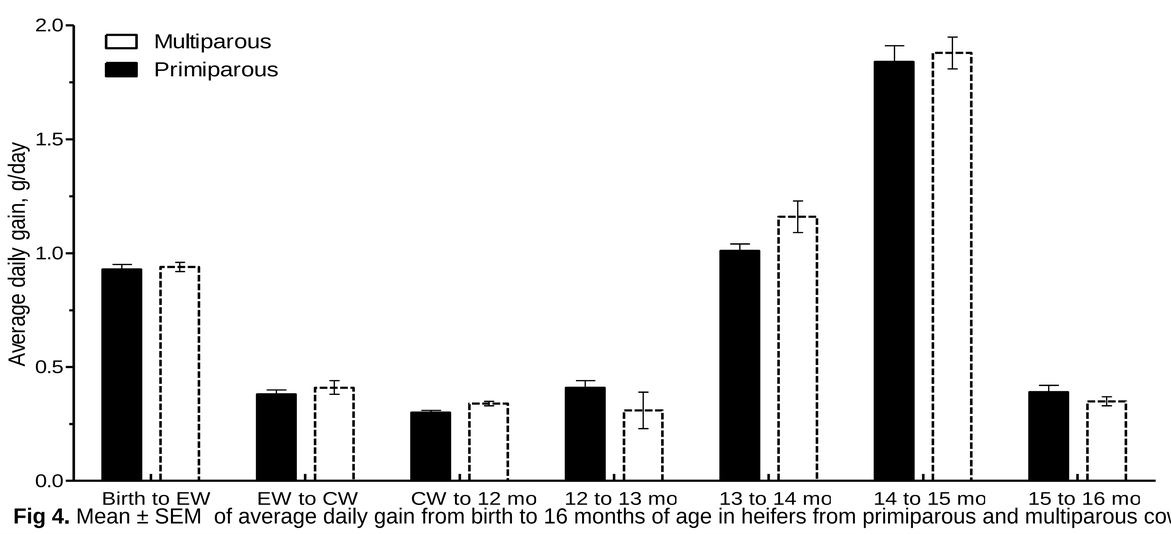

Fig 4. Mean ± SEM of average daily gain from birth to 16 months of age in heifers from primiparous and multiparous cows.

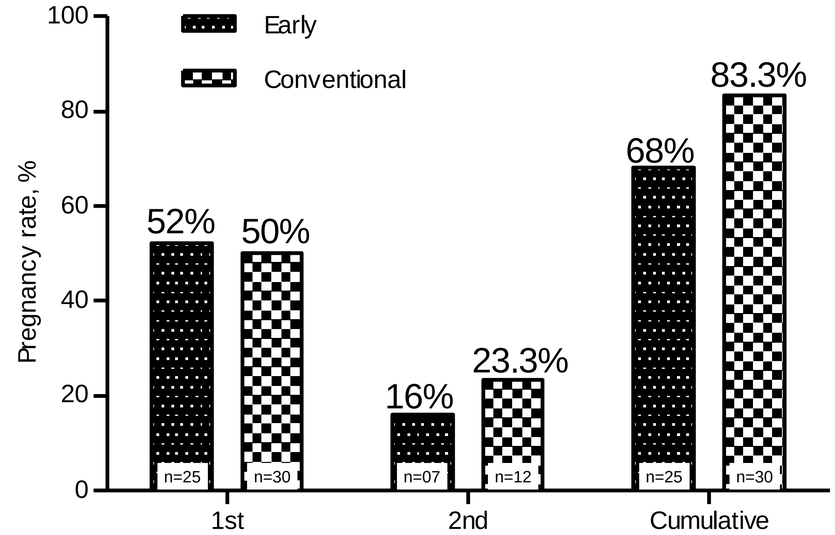

Fig 7. Proportion (%) of pregnant heifers after first TAI and second TAI, or cumulative pregnancy [1stTAI + 2ndTAI] (%) in early and conventional groups. (*)Significant differences were declared at P ≤ 0.05.

CONCLUSION

The anticipation of weaning time to 150 days during fetal programming did not affect body and reproductive tract development and hepatic gene expression. Reproductive performance was not conclusive due to the low number of animals.

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