MEETING ABSTRACT





The transgenerational study of insulin action in female offspring adult Wistar rats

Eduardo Kloppel^{*}, Yuri Karen Sinzato, Debora Cristina Damasceno, Gustavo Tadeu Volpato, Kleber Eduardo de Campos

From 20th Brazilian Diabetes Society Congress Porto Alegre, Brazil. 11-18 November 2015

Background

Obesity is related with the most present patophysiology disturbance in population, mainly in women, being as an important factor to glucose metabolic changes. Among the etiological factors, it is known the transgeracional effect of obesity allow this syndrome be developed in further generations, without genetic interference.

Objective

To evaluate the insulin secretion and action profile in adult age of rats from a gestational obesity.

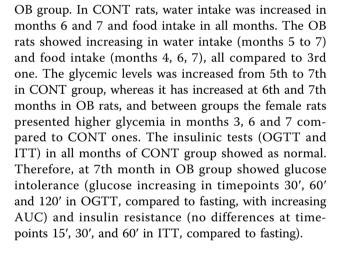
Materials and methods

Twelve newborn female Wistar rats were used, and half of them submitted to saline solution administration (control) and the other half were administrated monosodium glutamate solution, 4.0 mg/Kg body weight (obese) in neonatal period. At adult age (90 days of life) these female rats were mated with health male rats and the female offspring were used, divided into two groups: control (CONT, n=28) and obese (OB, n=15), according to its previous dam group. In all adult age (from 3rd to 7th months) the rats were monthly evaluate the Lee Index, water and food intake, 12h-fasting glycemia, oral glucose tolerance test (OGTT) and insulin test tolerance (ITT). In addition, from OGTT Results it was estimated the area under the glycemic curve (AUC). All data were statistically analyzed with 5% significance.

Results

The CONT female rats presented as normal by Lee Index only in 3rd month; and obese from 4th to 7th month in CONT group and also all months evaluated in

* Correspondence: e.kloppel@gmail.com UFMT, Barra do Garças, Brazil



Conclusion

The gestational period associated with obesity leads glucose intolerance and insulin resistance associated to aging process, confirming the transgerational effect in female rats with changes of insulin action in peripheral tissues.

Published: 11 November 2015

doi:10.1186/1758-5996-7-S1-A128 Cite this article as: Kloppel *et al*.: The transgenerational study of insulin action in female offspring adult Wistar rats. *Diabetology & Metabolic Syndrome* 2015 7(Suppl 1):A128.



© 2015 Kloppel et al. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http:// creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The Creative Commons Public Domain Dedication waiver (http://creativecommons.org/publicdomain/ zero/1.0/) applies to the data made available in this article, unless otherwise stated.