Conference presentation

Gender, Depression and *Zincum metallicum*

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Background: Depression is a hot topic for research including for the homeopathy community. Laboratory models for human diseases offer the possibility to evaluate depression-like behavior in mice by the tail suspension test (TST), such as the challenge of mothers with induced inflammation by lipopolysaccharide (LPS) during gestation. Moreover, it is known that gender influences depression prevalence and treatment evolution as well in a homeopathic approach. **Aims:** Verify if the treatment of LPS-challenged pregnant mice with homeopathic *Zincum metallicum* would change the depression-like behavior of the offspring according to the gender. **Methodology:** the procedures with animals were previously approved according to local and international law (CEUA-UNIP protocol 156-13). Pregnant randomized BALB/c mice were treated in blind with *Zincum metallicum* 200c, 30c, 5c and *Lactose* 5c as control. The treatment lasted 31 days: 21 days from the mating day to the delivery plus ten days of lactating. At the 9.5 days of pregnancy, mothers were challenged or not with 100 microgram/Kg of LPS IP. The pups were separated by sex and mother treatment. The tail suspension test was performed to all pups after they grow up to adulthood (2 months old). **Results:** The treatment influenced the TST according to gender, but not according to mother's LPS exposition. Female mice born from mothers treated with 200c potency showed reduction in the immobility time in relation to the control (p-value<0.05), independently of mother's exposition to LPS, it means less depression-like behavior. Males kept as their respective control level. The potencies 30c and 5c had few pups delivered which were withdrawn from the experiment. **Discussion:** The parents had their behavior at TST previously controlled and the estral cycle of F1 female was synchronized. The data suggests that gender, depression-like behavior and homeopathy may share a clue about the mechanism of action involved. TST is known to be affected directly by the GABA receptors. Further studies are needed to confirm the participation of these receptors and of putative genetic and epigenetic influence determined by gender and homeopathic treatment, including in other species, such as humans. Females are more susceptible to depression and women are general more careful about their health. The feminine prevalence among patients that look for homeopathy may lay on positive self observed results. **Conclusion:** *Zincum metallicum* 200c treatment to pregnant mice reduce the depression-like behavior of female pups, but not to males, independently of challenging factors, like LPS mother's exposition.

Keywords: Tail suspension test; perinatal; depressive-like behavior; lipopolysaccharide (LPS).

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