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Gene expression of small leucine-rich proteoglycans (SLRPS) in lacrimal gland of female mice with hyperprolactinemia induced metoclopramide

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Introduction: The SLRPs, are bioactive components of the extracellular matrix associated to the fibrillogenesis, and cell growth and apoptosis and tissue remodeling, and may be indicative of alterations on the functioning of the lacrimal glands.

Objective: This report aims to assess gene expression and immunolocalization of small leucine-rich proteoglycans, SLRPs (class I: biglycan and decorin) and (class II: lumican and fibromodulin).

Methods: Ten female/groups: control group (Ctr): 0.2 mL of saline (vehicle) and the experimental group (HPrl): 200 µg/day of metoclopramide, dissolved in vehicle. Intervention(s): induction of hyperprolactinemia.

Main Outcome Measure: After 50 consecutive days of treatment, the animals were euthanized and the blood samples were collected for hormone measurements. The lacrimal glands were removed and processed for gene expression by RT-qPCR. The results were subjected to statistical test ($p < 0.05$).

Results: Gene expression alteration of the small leucine-rich proteoglycans (SLRP). Serum prolactin levels were higher in all the animals with metoclopramide, while the levels of estradiol and progesterone were lower compared to control group.

Conclusion: Our data suggest that the state of hyperprolactinemia changed differently the gene expression of the small leucine-rich proteoglycans (SLRPs). Fact that could explain the changes in the amount of collagen in the lacrimal gland in female mice with HPrl reported in a previous study conducted in our laboratory. These data suggest impairment in functioning of the lacrimal gland by elevated serum prolactin levels and decreased estrogen and progesterone.

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