Retracted: Glucocorticoid-Induced, Morpho-Functional Alterations in Pancreatic Beta Cells of Wistar Rats

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ABSTRACT

Background: Though prolonged use of glucocorticoids has been reported to promote adverse effects, traditionally, high-dose glucocorticoids have been implicated in immune-suppression following organ transplant with Cortisone being a well-known artificial glucocorticoid. Objectives: This study investigated the histo-architectural and functional changes in pancreatic beta cells due to Cortisone administration. Materials and Methods: Forty two (42) Wistar rats (140 – 200 kg) were assigned into seven groups of six (6) rats each with group A acting as a control. While groups B and C were respectively treated with 0.1 mg/kg and 0.3 mg/kg of Cortisone, groups D and E received 0.1 mg/kg and 0.3 mg/kg of...
Cortisone respectively plus 33 mg/kg of Ketoconazole; whereas, groups F and G were respectively given 0.1 mg/kg and 0.3 mg/kg of Cortisone alongside 150 mg/kg of Vitamin E each for twenty-eight (28) days. After 28 days of administration, rats were euthanized and blood samples collected for insulin assay. Pancreatic tissues were also harvested and observed for histo-morphological changes.

**Results:** Analysis of variance (ANOVA) found Cortisone to have significantly (p < .05) increased glucose level in a dose dependent manner. This was however attenuated following co-administration of Ketoconazole and Vitamin E as Ketoconazole showed more potency in this ameliorating effect. Also, Cortisone was observed to significantly decrease (in dose dependent fashion), pancreatic β-cell functions, with attenuating effect seen following co-administration of Ketoconazole.

**Conclusion:** It is recommended that caution is applied with the intake of glucocorticoids, especially in polypharmacy while treating certain ailments.

*Keywords: Ketoconazole, ameliorating effect, cortisone, glucocorticoids*