

P-1389 - INTRANASAL INSULIN IMPROVES MOOD AND REDUCES THE HPA-AXIS EXCITABILITY IN HEALTHY YOUNG MEN

K.Jauch-Chara, A.Friedrich, M.Rezmer, M.Hallschmid, K.M.Oltmanns

¹Psychiatry and Psychotherapy, ²Neuroendocrinology, University of Luebeck, Luebeck, Germany

Introduction: Cerebral insulin has an immediate lowering effect on hypothalamic-pituitary-adrenal (HPA) axis response to strong psychosocial stress.

Objectives: So far, little is known about the modulation of ACTH and cortisol values by intranasal insulin administration under conditions of absolute rest as well as moderate activity changes.

Aims: To determine whether single low-dose intranasal insulin application reduces the overall HPA-axis excitability and increases mood in healthy young men.

Methods: In a randomized, double-blind, placebo-controlled, cross-over study, 15 healthy young men (22 to 28 years old) received a single intranasal dose of 40 IU human insulin or placebo after an overnight fast. Mood as well as blood concentrations of cortisol and ACTH were measured before and after insulin administration.

Results: In comparison to placebo, intranasal insulin reduces the HPA-axis excitability (all $P > 0.004$) as well as levels of arousal ($P = 0.050$), and increases feelings of well-being ($P = 0.038$) as well as of self-confidence ($P = 0.005$) as compared to placebo.

Conclusions: Present study shows that single low-dose intranasal insulin application effectively improves mood and lowers the HPA-axis response to moderate activity changes in healthy young men. These findings have meaningful implications for humans who suffer from diseases characterized by enhanced stress axes activity such as depression and metabolic syndrome. Based on its diminishing effect on cortisol concentrations, intranasal insulin administration might represent a promising therapeutic strategy to prevent and to treat such diseases.