
PLASMA OXYTOCIN AND TESTOSTERONE LEVELS IN PATIENTS WITH PSYCHOTIC DISORDER, THEIR UNAFFECTED SIBLINGS AND HEALTHY CONTROLS: RESULTS FROM THE EU-GEI PROJECT

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Introduction

The incidence of psychotic disorders is increased among men and culminates in adolescence. After menopause, there is a second peak in the incidence among women. It has therefore been suggested that sex steroids, such as oxytocin and testosterone, may confer decreased or increased risks for psychotic disorders.

Objectives

To investigate differences in peripheral oxytocin and testosterone plasma levels in patients with a first psychotic episode, their unaffected siblings and healthy controls.

Methods

Plasma hormone assays of oxytocin and testosterone were obtained from 85 patients with a psychotic disorder, 27 of their unaffected siblings and 59 healthy controls. Sex-hormone binding globulin (SHBG) was collected to calculate the free androgen index (FAI; testosterone/SHBG), a broad indicator of androgen status. We analyzed group differences in hormone levels, as well as associations with demographic and illness parameters.

Results

There were no significant differences in plasma oxytocin levels or FAI across groups. Adjusted for age, smoking, time of blood draw and BMI, we found a significant group difference in plasma testosterone levels in males ($F(6,72) = 2.8$; $p < 0.05$), not in females. This effect was primarily caused by significantly higher mean plasma testosterone levels in antipsychotic-naïve men ($n = 15$) compared to their unaffected brothers ($p < 0.01$) and healthy controls ($p < 0.05$).

Conclusions

This study contradicts previous findings of decreased testosterone and oxytocin levels in patients with a psychotic disorder. Increased plasma testosterone in antipsychotic-naïve male patients may reflect social distrust and paranoid thinking. It further underlines a potential mechanism of antipsychotic medication of normalizing androgen activity.