

SERUM CORTISOL IN PATIENTS WITH SCHIZOPHRENIA

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Introduction

Previous studies suggested that alterations in serum cortisol levels may play a role in the pathophysiology of schizophrenia. Imbalance in serum cortisol levels may be related to responsivity to antipsychotic treatment.



Aim of the study

To compare serum cortisol levels between patients with schizophrenia and healthy controls and to evaluate hormone association with psychopathology and response to antipsychotics in patients with schizophrenia.

Material

This clinical prospective study included 60 patients with schizophrenia and 40 healthy age and sex matched controls. All patients experienced an acute exacerbation of the illness (PANSS: P1 and P3 \geq 4). Clinical evaluation of patients was performed using the Positive and Negative Symptom Scale. A questionnaire for socio-demographic and clinical data collection was used. For the purposes of the study, the examined group was divided in two subgroups: responders and nonresponders. Serum cortisol and DHEA-S levels were measured at baseline in all participants and after 3 and 6 weeks of the antipsychotic treatment in patients with schizophrenia.

Method of investigation

Serum cortisol and DHEA-S levels were determined with chemiluminescent enzyme immunoassay (CLIA) methods of Immulite 2000 analyzers,



Conclusions

Elevated serum cortisol levels may be considered as a biomarker for the diagnosis of schizophrenia and may be used as a significant predictor for positive response to antipsychotic treatment in schizophrenia patients with acute exacerbation. Serum cortisol levels are associated with severity of specific symptoms in patients with schizophrenia according to their responsivity to antipsychotic treatment.

Results

Patients with schizophrenia had significantly higher serum cortisol levels compared with control group. Responders had significantly higher serum cortisol levels compared with nonresponders. From the three analyzed factors (serum cortisol, DHEA-S and cortisol/DHEA-S ratio), only serum cortisol was significant factor for antipsychotic treatment response. Responders group had significant correlation between serum cortisol and PANSS positive scale score.

Serum levels of cortisol and DHEA-S in the examined and control group

Hormone	Examined group	Control group	test	p-value
Cortisol	555.7 \pm 159.8	351.7 \pm 172.1	t = 6.07	0.00000
DHEA-S	329.5 \pm 125.1	167.4 \pm 57.5	t = 7.66	0.00000

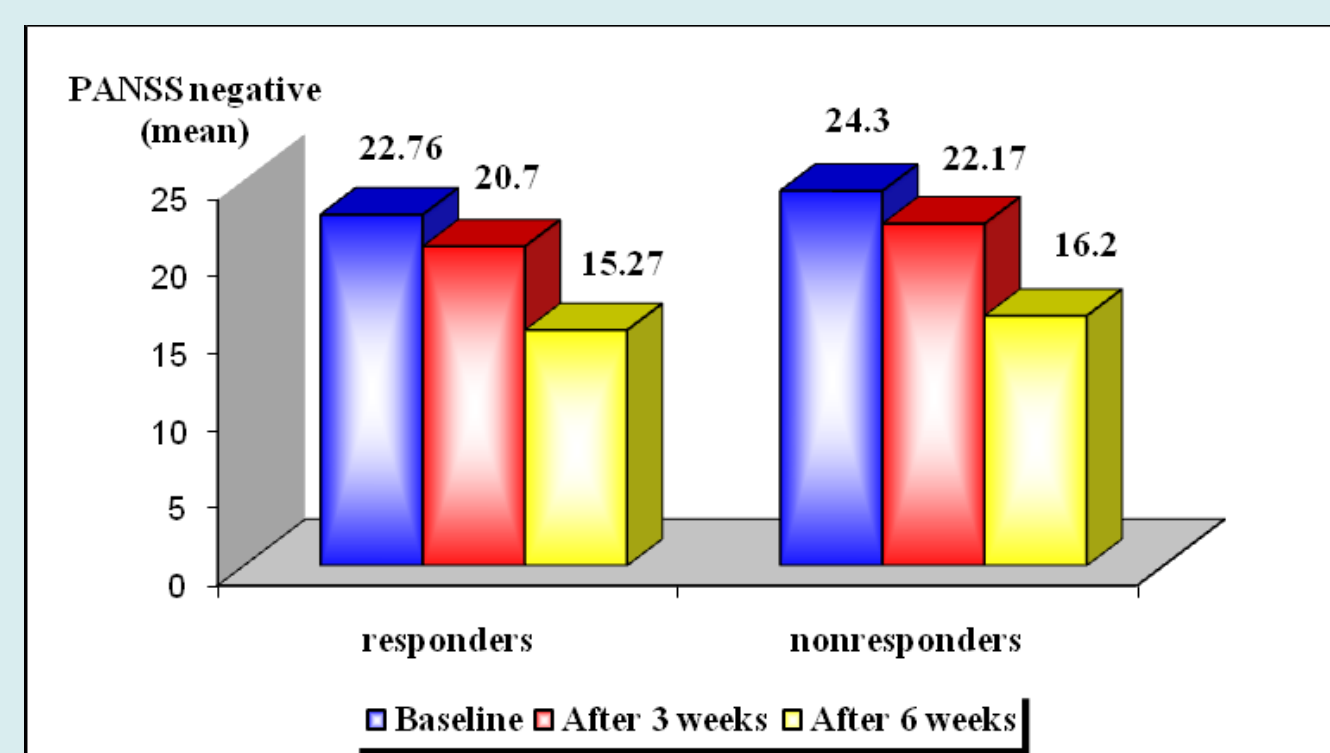
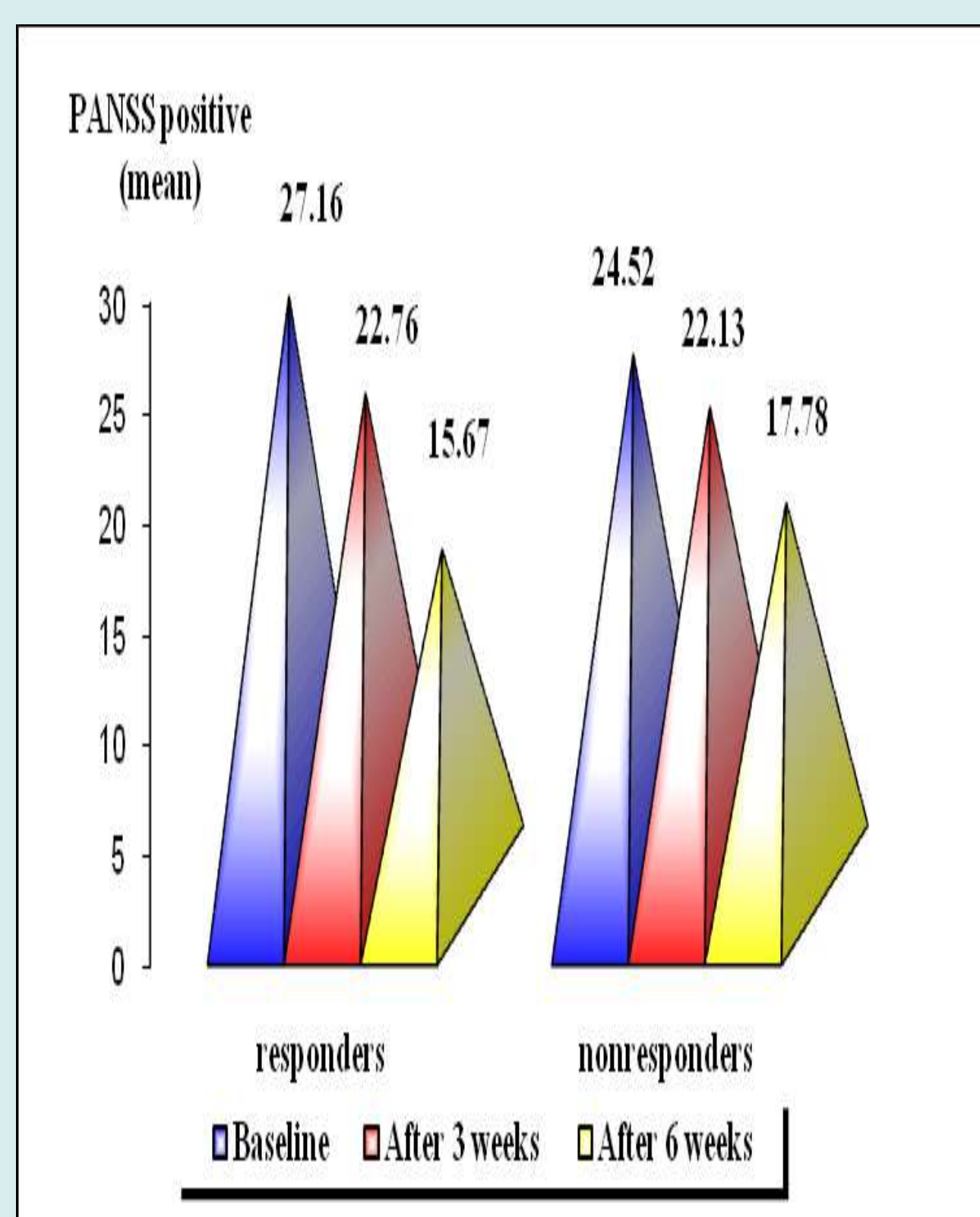


Figure 1. Positive and negative PANSS.

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