

RESPONSE TO EXPERIMENTAL STRESS IN COCAINE DEPENDENCE WITH COMORBID DEPRESSION

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INTRODUCTION

A major challenge in cocaine dependent subjects is to know if a concomitant major depression episode is independent or induced by the substance. Stress plays an important role in depression and substance use disorders. Acute stress response could be a useful biomarker to differentiate primary from induced depression in cocaine dependence.

OBJECTIVES

The aim of the study is to evaluate some components of the acute stress response in cocaine dependent patients with independent or substance-induced major depression.

RESULTS

In cocaine dependent subjects, those with independent depression showed a stress response similar to controls, but cocaine-induced depression did not present reactivity to stress. The most important results are shown in **table 1**. In **graphic 1** and in **graphic 2** present the mean cortisol concentrations and mean STAI-S scores during TSST.

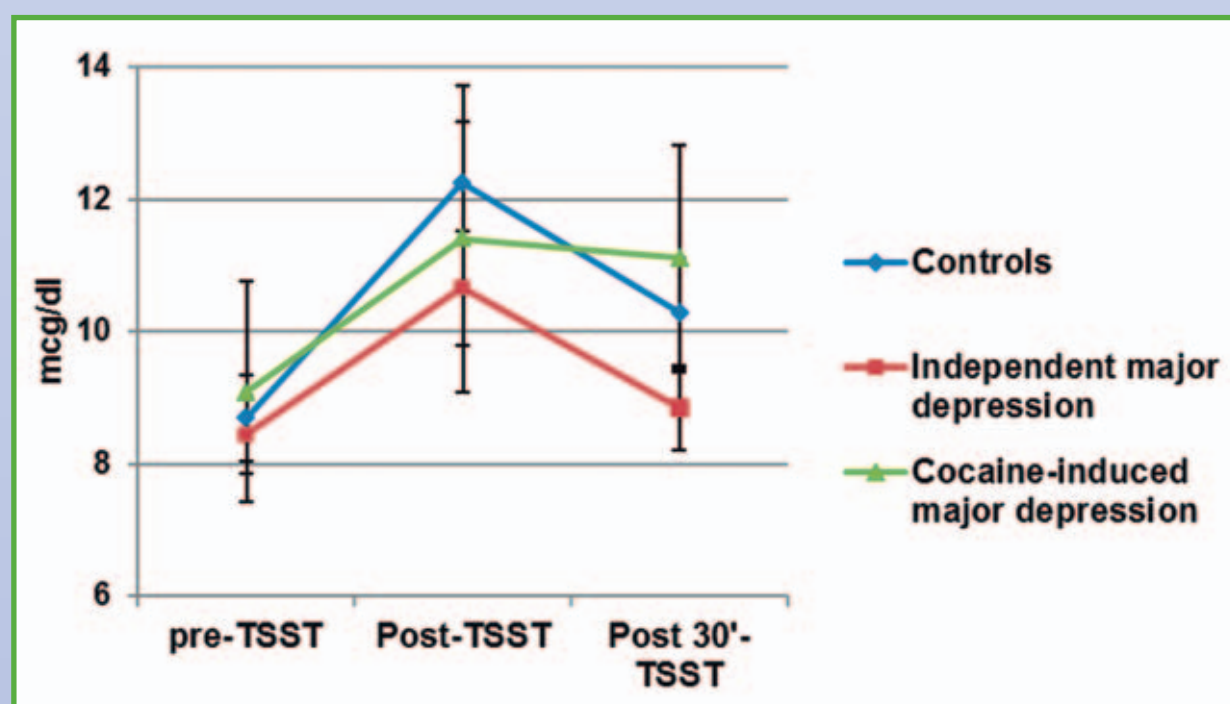
MATERIALS AND METHODS

23 cocaine dependent patients (DSM-IV-TR) (14 with comorbid independent major depression and 9 with comorbid cocaine-induced major depression) and 20 healthy controls. We used the Trier Social Stress Test (TSST) to evaluate the acute stress response in humans. Plasma cortisol levels and anxiety scores (using STAI-S) were measured before TSST (pre-TSST), immediately after TSST (post-TSST) and 30 minutes later (post-30'TSST). The data were analyzed with repeated measures ANOVA and post hoc analysis using the Bonferroni test.

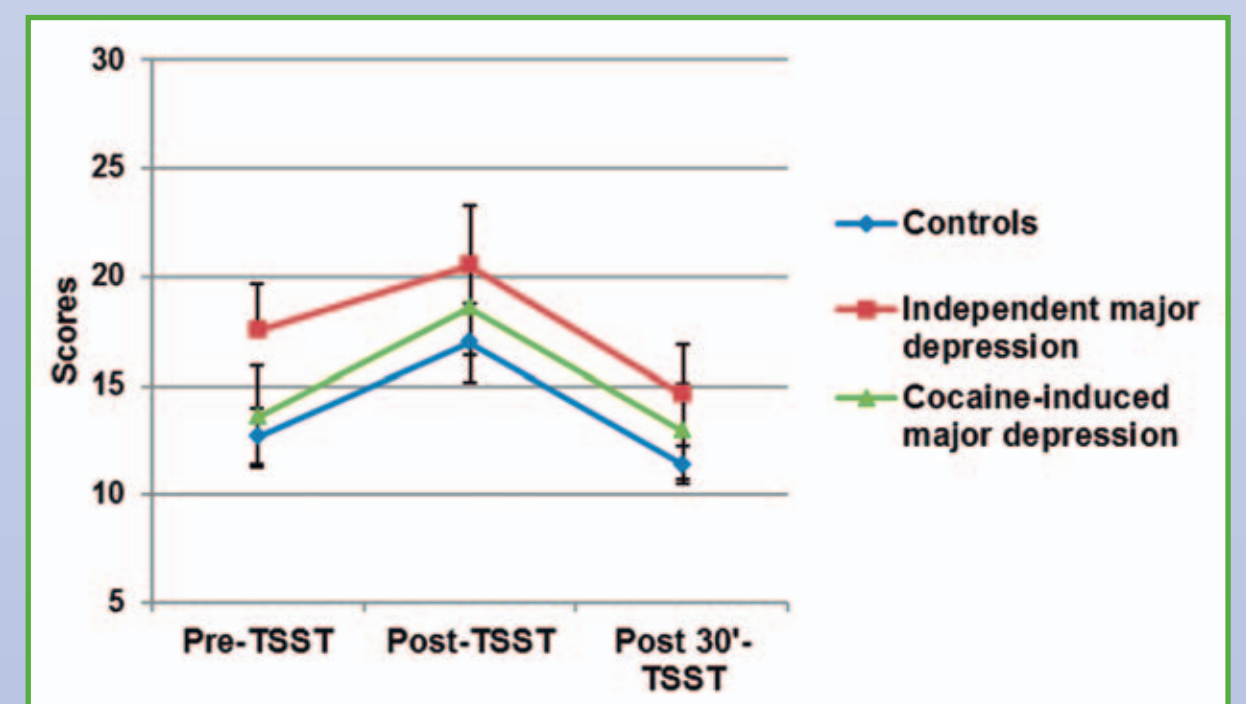
	Pre-TSST	Post-TSST	Post-30'TSST	ANOVA	
Controls (n=20)	Mean±S.D	Mean±S.D	Mean±S.D	p	Bonferroni
Cortisol	8,68±2,92	12,24±4,13	10,28±3,76	0,001	a,b
STAI-S	12,65±5,71	16,95±8,13	11,35±3,92	0,001	a,b
Cocaine-induced major depression (n=9)					
Cortisol	9,09±5,00	11,40±6,95	11,10±5,15	0,395	
STAI-S	13,56±7,09	18,56±6,54	12,89±6,60	0,171	
Independent major depression (n=14)					
Cortisol	8,43±2,22	10,65±3,27	8,84±4,16	0,012	b
STAI-S	17,50±7,88	20,50±10,45	14,57±8,67	0,015	b

Bonferroni test: a = statistically significant differences pre-TSST and post-TSST, b = statistically significant differences post-TSST and post30'TSST, c = statistically significant differences pre-TSST and post-30'TSST.

Graphic 1. Changes in cortisol concentrations during TSST



Graphic 2. Changes in STAI-S scores during TSST



CONCLUSIONS

These preliminary results show a different response to acute stress between patients with independent or cocaine-induced major depression. Stress response could be a biomarker to differentiate depression in cocaine dependent subject.

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