# SEROTONERGIC SYSTEM IN COCAINE-INDUCED DEPRESSION

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## INTRODUCTION

A major challenge is to know if the comorbid depression episode is independent or induced by the substance. Major depression is the most common psychiatric comorbidity in cocaine dependent subjects, and serotonergic system is one of the neurochemical systems implicated in both independent major depression and substance use disorders (1). Acute tryptophan depletion (ATD) has been used to evaluate serotonin function (2). ATD response could be a useful biomarker to differentiate primary from induced depression.

## OBJECTIVE

The aim of the study is to assess the ATD response in cocaine dependent patients with independent or cocaine-induced major depression.

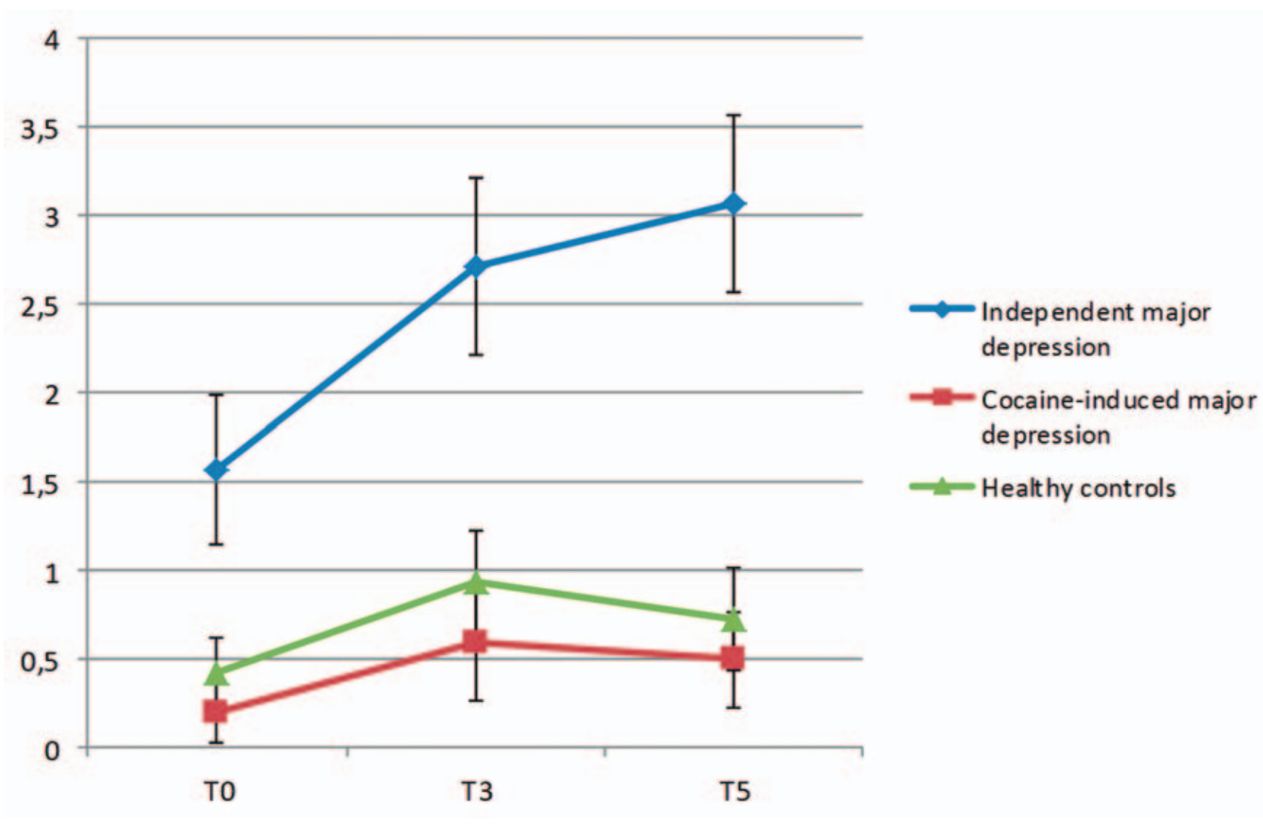
## SUBJECTS AND METHODS

ATD has been used to evaluate 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 (DSM-IV-TR) in a randomized double-blind crossover study.
Mood changes during ATD have been evaluated by the Hamilton Rating Scale for Depression (HRSD) at baseline (T0), after 3 hs (T3) and at 5 hs (T5). The data were analyzed with repeated measures ANOVA.

## RESULTS

Subjects with independent depression showed that ATD induces changes in HRSD total scores in T3 and T5 as you can see in **Graphic 1** with statistical differences (T0 vsT3: p=0.022 and T0 vs T5: p=0.001). No changes have been found in induced-cocaine depression group or in control group.

**Graphic 1. Changes in HRSD total scores in ATD in cocaine dependence patients with comorbid depression and healthy controls.**




Results presented as Mean and Standar Error

## CONCLUSIONS

These preliminary results show a different response to ATD test between independent or cocaine-induced major depression. These data support differences in the serotonergic system among primary and substance-induced depression.

## BIBLIOGRAPHY

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