

# Efficacy of Ketamine Compared to that of ECT in Patients with Treatment Resistant Depression

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## Introduction

### THERAPEUTIC OPTIONS FOR TREATMENT RESISTANT DEPRESSION

**PICO: In adult patients with treatment resistant depression, does the use of Ketamine more effectively reduce the severity of depressive symptoms compared to ECT?**

- **Treatment resistant depression (TRD):** 6 weeks of treatment for depression with no alleviation of the severity in symptoms (Fava, M., 2003)
- **Electroconvulsive Therapy (ECT)** has been a mainstay in the treatment of TRD. **Ketamine** is used as an anesthetic, however, recent trials are being conducted to observe its effects on depression

## Design/Sample

### REVIEW OF EIGHT RESEARCH ARTICLES

- Four studies solely focused on patients with Major Depressive Disorder alone
- Two studies used ketamine independently while others used it in conjunction with ECT
- Six articles had small sample sizes of less than 100 patients participating in the study, whereas two articles had a slightly larger sample size ranging from 127 to 437 patients

## Analysis

### TESTING INTERVENTIONS

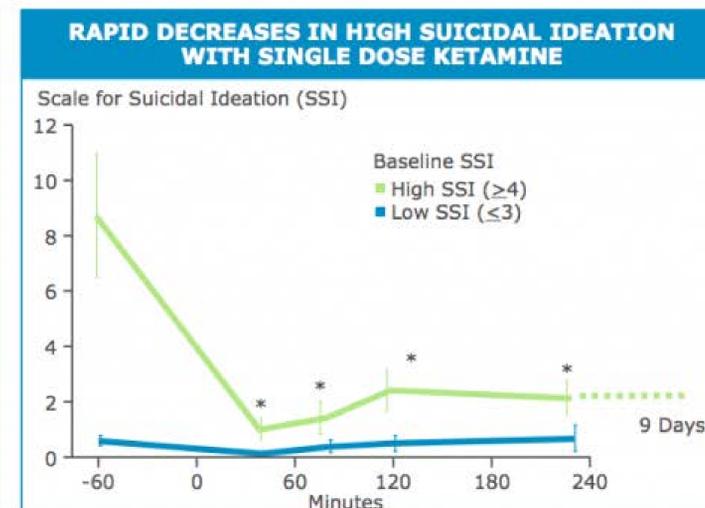
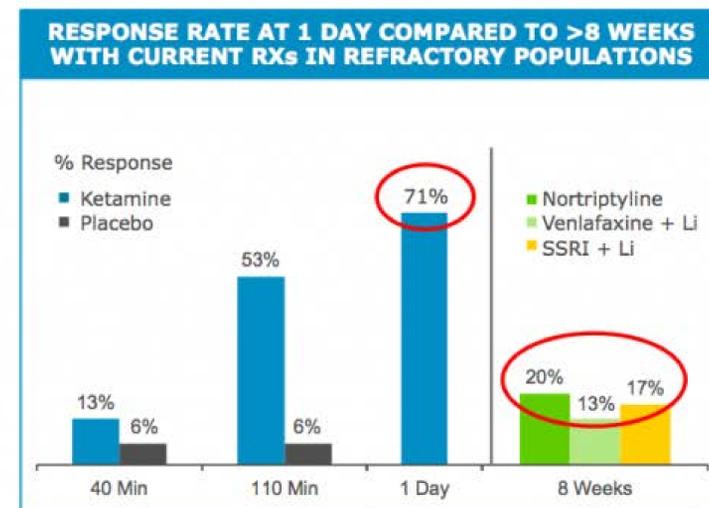
- The decrease in depressive symptoms was evaluated via various assessment tools like Hamilton Depression Rating Scale, Montgomery-Asberg Depression Rating Scale, and the Beck Depression Inventory

## Results

### POSITIVE RESPONSES TO KETAMINE OVER SHORT TERM TREATMENT

- Ketamine groups experienced lower scores on the HAM-D and BDI scales at the end of the first and second week, effects lasting after therapeutic dosing
- Ketamine allowed for a faster onset of action, thus causing the participants to experience earlier improvement with their depression symptoms, leading to fewer ECT sessions
- Across all studies, ketamine reduced depressive symptoms in patients with MDD
- Neither gender nor age appeared to influence Ketamine treatment response
- Results varied as to whether ketamine was advantageous when used with ECT
- Effects on suicidality were significantly diminished after courses of ketamine treatment

## Experimental Studies\* Suggest Ketamine to Be Rapid, Effective Treatment for Refractory Depression, Suicidality



\* Proof of concept studies from academic sources.  
 Zarate et al. Arch. Gen Psychiatry 2006.  
 Rush et al, STAR-D, AJP, 2006. Diaz Granados et al: JCP, 2010.



## Summary

### CANNOT YET SUFFICIENTLY DETERMINE WHICH IS MORE EFFECTIVE IN THE TREATMENT OF TRD

- Complexities within the assessment of depression, studies often utilize various tools to evaluate success
- Ketamine has a dose-dependent response and needs to become more standardized when studied for therapeutic treatment dosing
- ECT and ketamine consist of different timelines to exhibit a therapeutic effect
- Ketamine studies had instances of relapse after single use within 2-3 weeks

## Conclusions/Further Study

### KETAMINE AND ECT OFFER HOPE TO THOSE PATIENTS WHO HAVE HAD LITTLE TO NO SUCCESS

- Although ketamine may be most effective in patients with high suicidal risk due to rapid effects, further studies are needed to broaden understanding and clinical evidence base for proper dosing regimen
- Ketamine has proven to provide quick relief of depressive symptoms in patients with TRD, now it is important to focus on studying the long-term neurological effects or potential risks before implementing this treatment into practice

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For full text and list of references

Received from: <https://www.forbes.com/sites/matthewherper/2013/05/23/johnson-johnson-is-reinventing-the-party-drug-ketamine-to-treat-depression/#3383f9c015e2>  
 Head: Johnson & Johnson Is Reinventing The Party Drug Ketamine To Treat Depression



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