Evaluation of Combination Treatment with Monoamine Oxidase Inhibitors and Stimulants
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Treatment-resistant depression (TRD) is an all-too-common clinical occurrence for which monoamine oxidase inhibitors (MAO-I) have a place in stepwise pharmacotherapy, notwithstanding potentially life-threatening adverse effects from drug-drug and -food interactions. A complicating factor is that patients with TRD very often present with severe comorbidities necessitating the use of medications with which MAO-I is have a hypothetical interaction. For instance, the concurrent use of stimulants among TRD patients with co-morbid attention-deficit/hyperactivity disorder (ADHD) is fraught with concerns for such adverse events as hypertensive crisis, and serotonin syndrome, among others.

Systematic Review
The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Guidelines were followed for the current systematic review. The protocol for this systematic review, however, was not registered prior to conducting the review.

Database
MEDLINE/PubMed

Terms
MAO-I, amphetamine, stimulant

Time
Jan 1960 - Aug 2020

Results
Of the 3638 articles screened, 25 research studies were found to be of relevance. The majority of cases reported support that the use of MAO-I in combination with a stimulant is safe. This is not true for all cases, however.

Case
The patient is a 31 yo man with TRD and attention deficit-hyperactivity disorder (ADHD) who had failed numerous trials comprising multiple antidepressant classes (including ketamine) and somatic therapies (electroconvulsive therapy [ECT] and transcranial magnetic stimulation [TMS]).

He presented with unremitting active suicidal ideation, having recently made a serious suicide attempt while admitted to an inpatient psychiatric unit. The patient had been maintained on mixed amphetamine salts for some time prior to presentation.

The patient was treated with a combination of transdermal selegiline patch (12mg/day) and mixed amphetamine salts, which was well tolerated with no adverse effects. He had marked improvement in mood and resolution of suicidal ideation. He was discharged home with outpatient follow up.

Discussion
Currently, the combination of MAOI and stimulants are contraindicated. We report a patient whose severe TRD was successfully treated with combined MAOI (selegiline patch) and stimulant (amphetamine) treatment. Similarly, the literature review indicates a large majority of recent reports demonstrating successful treatment with combined MAOI and stimulants.

References