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REVIEW ARTICLE ON USE OF ESKETAMINE FOR THE TREATMENT OF PATIENTS WITH TREATMENT RESISTANT DEPRESSION

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ABSTRACT:

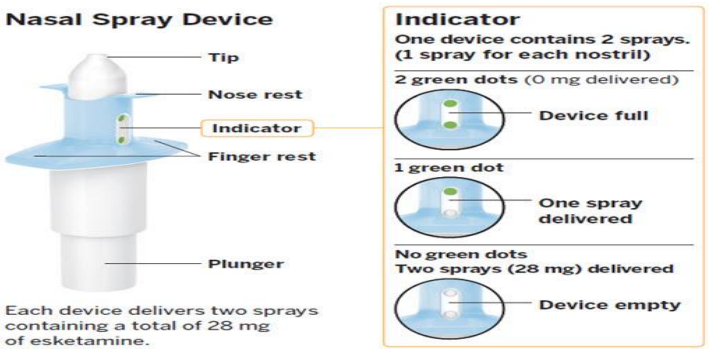
Treatment-resistant depression (TRD) is a serious difficulty in mental health treatment, needing novel and effective treatments. Esketamine, the S-enantiomer of ketamine, has emerged as an exciting new therapy for TRD. Clinical trials have shown that it is helpful in delivering quick relief for TRD patients, with significant improvements shown within hours to days of dosing. The quick commencement of action is especially important in circumstances where standard antidepressants can take weeks to show therapeutic effects. Esketamine is a viable therapy alternative for TRD patients, providing immediate and strong antidepressant effects through a novel mechanism of action.

KEYWORDS: Esketamine, TRD, S-enantiomer

INTRODUCTION

- According to the World Health Organisation, depression affects over 300 million people worldwide. One out of 20 Indians has depression, and approximately 30% of those with major depressive illness have Treatment-Resistant Depression. TRD is a form of Major Depressive Disorder (MDD). TRD is a condition in which two distinct first-line antidepressant drugs do not provide significant relief during a depressed episode.
- Esketamine has gained popularity as a therapy for therapy-resistant Depression (TRD). Esketamine is a derivative of ketamine, a well-known anesthetic drug that acts on the brain's glutamatergic system, specifically the N-methyl-D-aspartate (NMDA) receptor.

PARTS OF ESKETAMINE



FDA APPROVAL

- Intranasal esketamine was cleared by the US FDA in March 2019. Janssen Pharmaceutical was in charge of developing it.
- Intranasal esketamine, marketed as Spravato, is used in conjunction with TRD in adults. This signified a huge advancement in the field of psychiatry.

INDICATION

Treatment-Resistant Depression (TRD):

• Esketamine is recommended for adults with TRD who have not responded well to regular antidepressant medication.

• Clinical trials have shown that Esketamine effectively reduces depressive symptoms in people with TRD, leading to its clearance for this specific use.

MECHANISM OF ACTION

Binding to NMDA-Rs

↓

Reduced GABA inhibition

↓

Disinhibition of glutamatergic neuron

↓

Increased glutamate release

↓

Increased BDNF and syaptogensis

DOSAGE AND AVAILABILITY:

• Each nasal spray device delivers two 28mg sprays.

• Kits are available in 56mg (two 28-mg nasal spray devices) or 84mg (three 28-mg nasal spray devices).

•Esketamine is given as a nasal spray under the guidance of a medical expert. The nasal spray is normally utilised in a controlled environment, and patients are followed for a period of time following treatment.

ADMINISTRATION

INDUCTION PHASE

- ***Weeks 1-4***
  - Administer intranasally twice per week
  - Day 1 starting dose: 56 mg
  - Subsequent doses: 56 mg or 84 mg

MAINTENANCE PHASE

- ***Weeks 5-8***
  - Administer intranasally once weekly
  - 56 mg or 84 mg
- ***Week 9 and after***
  - Administer intranasally q2Week or once weekly; individualize dosing frequency to the least frequent dosing to maintain remission/response
  - 56 mg or 84 mg

RAPID ONSET OF ACTION

Esketamine is known for its quick onset of effect. In contrast to the delayed start common with standard antidepressants, some individuals may experience improvement in depressed symptoms within hours or days.

PHARMACOKINETICS

ABSORPTION: It is absorbed in the alveoli and GIT.

METABOLISM: It is metabolized in the liver and the half-life period is 7-12 hours.

EIMINATION: 1% of unmetabolized esketamine can be detected in the urine

DRUG INTERACTION

When benzodiazepine and esketamine are combined, the chance or severity of undesirable effects increases.

FOOD INTERACTION

Consuming alcohol may enhance the sedative effects of esketamine.

Before taking esketamine, wait at least 2 hours and 30 minutes between meals and drinks.

SIDE EFFECTS

- Dissociation
- Dizziness
- Nausea
- Hypertension
- Anxiety
- Lethargy
- Numbness

CONTRAINDICATIONS

- Hypersensitivity
- Hypertension
- Pregnancy
- Lactating Mothers

ROLE OF NURSE

Nurses have a critical role in the utilisation of Esketamine for Treatment-Resistant Depression (TRD). Their tasks include a wide range of patient care, therapy administration, monitoring, and assistance. Here are the primary tasks that nurses often play when using Esketamine:

- Nurses educate patients and family about Esketamine treatment.
- Before administering Esketamine, nurses do a complete examination of patients.
- Esketamine is frequently administered by nurses. They ensure that the medication is provided in accordance with the protocol, and they monitor the patient for any adverse effects throughout and after therapy.

- Patients must be continuously monitored both during and after Esketamine therapy. Nurses monitor vital signs, look for indicators of adverse responses (such as dissociation or dizziness), and maintain the patient's safety during the therapy.
- While adverse responses to Esketamine are infrequent, nurses should be ready to respond quickly in the event of an emergency. This includes receiving training on how to manage any adverse effects (dissociation and hypertension) as well as having access to emergency drugs and equipment.
- Esketamine treatment sessions must be accurately and thoroughly documented.

ONGOING RESEARCH

Research into the long-term effectiveness and safety of esketamine is ongoing. Additionally, studies are exploring its potential use in other psychiatric conditions beyond TRD, such as **bipolar depression**.

CONCLUSION

Esketamine is a notable improvement in psychiatry, providing a novel way to treating TRD. As research progresses, we will likely gain a better grasp of its long-term impacts, ideal treatment procedures, and broader uses. When introducing esketamine into treatment strategies, healthcare providers must carefully analyse specific patient profiles and the overall risk-benefit ratio.

REFERENCES

- Samalin L, Rothärmel M, Mekaoui L, Gaudré-Wattinne E, Codet MA, Bouju S, Sauvaget A. Esketamine nasal spray in patients with treatment-resistant depression: the real-world experience in the French cohort early-access programme. International Journal of Psychiatry in Clinical Practice. 2022 Nov 1;26(4):352-62.
- American Psychological Association. 2019. Clinical practice guideline for the treatment of depression across three age cohorts. [accessed 2021 March 10].
- https://www.who.int/news-room/fact-sheets/detail/depression