

Varenicline: Efficacy, Precaution, and Safety in Smoking Cessation

Running Title: *Varenicline* and Smoking Cessation

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Abstract

Varenicline is a medication used to help people quit smoking when used in conjunction with education and counseling. It is the first-line treatment for smoking cessation and is available in 0.5 mg and 1 mg strength oral tablets. Varenicline is primarily eliminated via the kidney through glomerular filtration, and its excretion is via the renal route, so it is important to monitor renal function before and during treatment. Varenicline has been associated with an increased risk of new psychiatric conditions, anxiety, and mood disorders in some individuals. The use of Varenicline should be accompanied by close monitoring and careful consideration of individual patient factors. While Varenicline can be used in a wide range of patients, its use should be carefully considered in patients with heart or blood vessel disease, renal impairment, psychiatric disorder, or seizure.

Keywords: Varenicline, Smoking Cessation, Psychiatric, Renal Failure, Cardiovascular Diseases

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Introduction

Smoking cessation is a difficult task for patients, families, and doctors, and there are various medicinal and non-medicinal treatments available. One of the drugs that is currently being discussed is Varenicline.

Varenicline is a medication used to help people quit smoking when used in conjunction with education and counseling. It is the first-line treatment for smoking cessation and is available in 0.5 mg and 1 mg strength oral tablets. The recommended starting dose is 0.5 mg orally once daily for days 1 to 3, which is then increased to 0.5 mg twice daily. Varenicline is primarily eliminated via the kidney through glomerular filtration, and its excretion is via the renal route, so it is important to monitor renal function before and during treatment (1).

Varenicline can be used in patients without a history of psychiatric disorder, as it is effective in smoking cessation. However, it is important to note that Varenicline has been associated with an increased risk of new psychiatric conditions, anxiety, and mood disorders in some individuals (2).

The recommendations and precautions for the use of Varenicline include the following:

- Varenicline is used as a smoking cessation aid in individuals 18 years or older, and it should be used in conjunction with education and counseling.

- The recommended starting dose is 0.5 mg orally once daily for days 1 to 3, which is then increased to

0.5 mg twice daily. It should be started one week before the target quit date.

- Varenicline is primarily eliminated via the kidney, so it is important to monitor renal function before and during treatment. Elderly patients are more likely to have age-related kidney problems, which may require caution and an adjustment in the dose.

- Patients should be closely monitored for signs or symptoms of depression, agitation, behavior changes, skin reactions, or suicidal ideation. If serious adverse effects occur, including psychiatric conditions, Varenicline should be discontinued immediately, as there are currently no antidotes to Varenicline toxicity.

- Varenicline may cause side effects such as nausea, constipation, diarrhea, and changes in taste. Patients should seek medical advice if they experience severe or persistent side effects.

It is important to note that Varenicline may increase the risk of having a heart attack, especially in patients with heart or blood vessel disease, so its use should be carefully considered in such individuals. Additionally, it is not a contraindication to use Varenicline in patients with underlying psychiatric illnesses; however, clinicians should monitor symptoms for further deterioration, and patients exhibiting worsening psychiatric disturbance or suicidal ideation should promptly stop the medication. Close monitoring is also necessary if the patient has a history of renal impairment, psychiatric disorder, or seizure disorder. Therefore, while

Varenicline can be used in a wide range of patients, its use should be accompanied by close monitoring and careful consideration of individual patient factors(3-6).

Many psychiatrists have stopped prescribing Varenicline for smoking cessation due to concerns about cardiovascular problems, and it has not been well received. In a study examining trends in the prescribing of smoking cessation medications in England, Varenicline was widely prescribed soon after its introduction, becoming the second most commonly prescribed drug after nicotine replacement therapy. However, the overall rates of prescribing for smoking cessation medication did not significantly increase after the introduction of Varenicline (7). Additionally, a study investigating the use of smoking cessation medications among smokers with and without mental illness found that over 14 years, the proportion of smokers receiving Varenicline peaked at 2.9% among those with any mental illness, and 2.4% among those with serious mental illness. The study also revealed that at least 83% of smokers with or without mental illness did not receive Varenicline, indicating a low prescription rate for this medication (8). These findings reflect the cautious approach adopted by many psychiatrists in prescribing Varenicline for smoking cessation.

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