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CLINICAL EFFICACY AND SAFETY OF THE COMBINATION OF ROSUVASTATIN AND EZETIMIBE IN THE TREATMENT OF DYSLIPIDEMIA

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Abstract

This article analyzes the clinical efficacy and safety of the combination of rosuvastatin and ezetimibe in the treatment of dyslipidemia. Dyslipidemia is a major risk factor for cardiovascular disease, and while statins are first-line therapy for lowering LDL cholesterol, monotherapy may be insufficient in some patients. Clinical studies demonstrate that the combination therapy provides greater LDL cholesterol reduction compared to monotherapy, with a safety profile similar to statins alone.

Keywords: Rosuvastatin, ezetimibe, dyslipidemia, LDL cholesterol, cardiovascular outcomes, safety profile.

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Аннотация

В статье анализируется клиническая эффективность и безопасность комбинации розувастатина и эзетимиба при лечении дислипидемии. Дислипидемия является одним из основных факторов риска сердечно-сосудистых заболеваний. Несмотря на то, что статины являются препаратами первой линии для снижения уровня ЛПНП-холестерина, у некоторых пациентов монотерапия оказывается недостаточной. Клинические исследования показывают, что комбинированная терапия обеспечивает более значительное снижение ЛПНП-холестерина по сравнению с монотерапией и имеет сходный профиль безопасности.

Ключевые слова: Розувастатин, эзетимиб, дислипидемия, ЛПНП-холестерин, сердечно-сосудистые исходы, профиль безопасности.

Introduction

Cardiovascular diseases remain the leading cause of morbidity and mortality worldwide. Dyslipidemia, particularly elevated LDL cholesterol, is a key modifiable risk factor. Statins are widely used as first-line therapy; however, in certain patients, monotherapy does not achieve target lipid levels. Combination therapy with rosuvastatin and ezetimibe has emerged as a promising strategy to enhance lipid-lowering efficacy while maintaining safety.

Literature Review

A review of randomized clinical trials and meta-analyses from PubMed, *The Lancet*, and other scientific sources was conducted. Key studies include the IMPROVE-IT trial, which demonstrated the benefit of adding ezetimibe to statin therapy after acute coronary syndromes, and the RACING trial, which compared rosuvastatin + ezetimibe with high-intensity statin monotherapy in patients with

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coronary artery disease. These studies consistently show superior LDL cholesterol reduction with combination therapy.

Research Methodology

- Sources: PubMed, *The Lancet*, and other peer-reviewed journals.
- Criteria: LDL cholesterol, total cholesterol, triglycerides, HDL cholesterol, and cardiovascular event rates.
- Comparisons: Rosuvastatin + ezetimibe vs. rosuvastatin monotherapy and high-intensity statin therapy.

Results

- LDL cholesterol reduction: Combination therapy achieved 20–25% greater reduction compared to monotherapy.
- Total cholesterol and triglycerides: Significant decreases were observed.
- HDL cholesterol: Some studies reported modest increases.
- Clinical outcomes: The RACING trial confirmed non-inferiority of combination therapy compared to high-intensity statin monotherapy in reducing cardiovascular events.
- Safety: Rates of liver enzyme elevation and muscle-related adverse effects were similar to monotherapy.

Discussion

Rosuvastatin + ezetimibe combination therapy is effective and safe, particularly in high-risk patients or those intolerant to high-dose statins. Even at lower doses, the combination achieves substantial lipid-lowering effects, reducing the risk of adverse events. Clinical evidence supports its role as an alternative to high-intensity statin monotherapy.

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Conclusion

The combination of rosuvastatin and ezetimibe effectively lowers LDL cholesterol, reduces cardiovascular risk, and demonstrates a safety profile comparable to monotherapy. It represents an important therapeutic option in clinical practice, especially for high-risk patients.

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