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Efficiency of Direct Antiviral Drugs in HCV-monoinfected Individuals Compared to HCV/HIV Coinfected Individuals in a Real-world Environment

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Introduction

Hepatitis C virus infection is a major global health issue, affecting an estimated 58 million people worldwide. Chronic HCV infection can lead to liver cirrhosis, liver failure, and hepatocellular carcinoma if left untreated. Human immunodeficiency virus co-infection complicates HCV treatment, as it accelerates liver disease progression and impacts the immune response. In recent years, the advent of direct-acting antivirals has revolutionized HCV treatment, providing high cure rates, shorter treatment durations, and fewer side effects compared to older therapies like interferon-based regimens. However, the efficacy of DAAs in HCV-monoinfected individuals compared to those with HCV/HIV co-infection in real-world settings remains a critical area of research. This article explores the efficiency of DAAs in treating HCV in monoinfected individuals versus those with HCV/HIV co-infection in real-world environments, considering factors such as treatment outcomes, adverse effects, adherence, and patient management [1,2].

Description

Co-infection with HCV and HIV presents unique challenges in terms of treatment outcomes. HIV-infected individuals, especially those with advanced immunosuppression or low CD4 counts, may experience more rapid progression of liver disease, making the treatment of HCV more urgent. While DAAs have significantly improved outcomes for HCV/HIV co-infected individuals, the efficiency of these drugs in this population can differ compared to those with HCV alone due to several factors. Real-world studies indicate that HCV/HIV co-infected individuals also experience high cure rates with DAAs, though they are slightly lower than those observed in HCV-monoinfected individuals. SVR12 rates for co-infected patients are generally around 85–95%, compared to 95–98% in HCV-monoinfected individuals. Some studies have shown that co-infected individuals with lower CD4 counts or higher HIV viral loads may experience reduced SVR rates, though this effect is typically modest. However, when HIV is well-controlled with antiretroviral therapy, the cure rates for HCV are comparable to those seen in HCV-monoinfected patients. Adherence to both DAA and ART regimens can be challenging for HCV/HIV co-infected individuals. Polypharmacy, the need for adherence to both HCV and HIV therapies, can be overwhelming for patients. However, recent developments in once-daily single-tablet regimens for both HIV and HCV have simplified treatment and improved adherence [3-5].

Conclusion

These benefits have led to the widespread adoption of DAAs in clinical practice, including in individuals co-infected with HIV. In HCV-monoinfected individuals, DAAs have demonstrated outstanding efficacy. Clinical trials and real-world studies have shown that the vast majority of monoinfected patients can achieve SVR after completing DAA treatment, even in those with advanced liver disease or previous treatment failures. In the real-world environment, DAAs are highly effective for both HCV-monoinfected and HCV/HIV co-infected individuals. Cure rates in co-infected patients are slightly lower than those in monoinfected individuals, but still highly favorable, especially when HIV is well-controlled with ART. Drug-drug interactions, adherence challenges, and the degree of immunosuppression remain key factors influencing treatment outcomes for co-infected individuals. With careful management of HIV and HCV therapy, many co-infected individuals can achieve sustained virologic response similar to monoinfected individuals. As HIV treatment regimens continue to evolve and drug interactions become better understood, the efficacy of DAAs in co-infected individuals is likely to improve, further closing the gap in treatment outcomes between monoinfected and co-infected patients.

Acknowledgement

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Conflict of Interest

None.

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