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Safety of guselkumab in hepatitis B virus infection

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Abstract

Reactivation of hepatitis B virus (HBV) following the use of TNF antagonists has been reported and is a contraindication to use of these medications. Although the risk of reactivation of HBV during use of ustekinumab and secukinumab is low in patients with only HBV core antibody positivity, the risk is substantial in patients with chronic HBV infection. Less information is available regarding the use of pure IL-23 antagonists. Herein we discuss the successful treatment with guselkumab of a patient with HBV core antibody positivity, without evidence of HBV reactivation or other liver complications.

Keywords: psoriasis, guselkumab, hepatitis B, IL-23

Introduction

Reports of reactivation of hepatitis B virus (HBV) and subsequent liver damage following the use of TNF antagonists have raised concerns regarding the safety of biologic agents in patients with a history of HBV infection [1]. A recent review of patients with psoriasis on biologic therapies including TNF antagonists, ustekinumab, and secukinumab determined that the risk of HBV reactivation is low in patients with isolated HBV core antibody positivity, whereas there is considerable risk in patients with chronic HBV infection. Although this review discussed ustekinumab, an IL-12 and IL-23 antagonist, it did not provide an analysis of pure IL-23 antagonists [2]. We report a patient with a history of HBV core antibody positivity and a history of palmoplantar psoriasis refractory to multiple biologic agents who was successfully treated with guselkumab, an IL-23 antagonist, without evidence of HBV reactivation or other liver complications.

Case Synopsis

A 46-year-old man was referred to our university-based dermatology outpatient clinic for a six-year history of severe palmoplantar psoriasis, which had been refractory to methotrexate, acitretin, adalimumab, ustekinuamb, and secukinumab. His most recent therapy was eight months of ustekinumab, an IL-12 and IL-23 antagonist, which he tolerated without side effects but had incomplete clearance of his palmoplantar involvement. As a result, the decision was made to start him on guselkumab (100mg at 0 and 4 weeks, then every 8 weeks). Baseline labs revealed a positive HBV core antibody, positive HBV surface antibody, negative HBV surface antigen, normal liver function tests (AST 20, ALT 40), and a negative T-spot. We did not have access to his previous records and laboratory results, so it is unclear when he had an exposure to HBV. At one year of therapy, the patient had almost complete clearance of his psoriasis except for a small plaque on his right medial foot. Repeat labs revealed stable liver function tests (AST 19, ALT 40), persistently positive HBV core antibody, negative HBV surface antigen, negative HBV core IgM, and an HBV DNA level of zero.

Case Discussion

Guselkumab, an IL-23 antagonist, is a highly effective and well-tolerated therapy for patients with psoriasis [3]. Although there is some data on the safety of ustekinumab, an IL-12 and IL-23 antagonist, in the setting of HBV infection [2], there is little data

regarding the safety isolated IL-23 antagonists such as guselkumab in this population.

Conclusion

This case describes the successful treatment of a patient with treatment-refractory palmoplantar psoriasis with guselkumab, an IL-23 antagonist, in the setting of HBV core antibody positivity. Further studies are needed to confirm the safety of guselkumab in patients with HBV infection.

Potential conflicts of interest

Dr. Orlowski was active duty Air Force at the time of submission. The views expressed are those of the authors and are not to be construed as official or as representing those of the US Air Force or the Department of Defense. Dr. Orlowski was a full-time federal employee at the time portions of this work were completed. They are in the public domain. Dr. Duncan has been on the Novartis advisory board (received honorarium). Dr. Elewski has clinical research support (research funding provided to the University) from: Abbvie, Boehringer, Ingelheim, Celgene, Incyte, Leo, Lilly, Merck, Novartis, Pfizer, Regeneron, Sun, Valeant (Ortho Dermatology), and has consultant (received honorarium) for Boehringer Ingelheim, Celgene, Leo, Lilly, Novartis, Pfizer, Sun, Valeant (Ortho Dermatology)

References

1. Cannizzaro MV, Franceschini C, Esposito M, et al. Hepatitis B reactivation in psoriasis patients treated with anti-TNF agents: prevention and management. *Psoriasis (Auckl)*. 2017;7:35-40. [PMID: 29387606].
2. Snast I, Atzmony L, Braun M, et al. Risk for hepatitis B and C virus reactivation in patients with psoriasis on biologic therapies: A retrospective cohort study and systematic review of the literature. *J Am Acad Dermatol*. 2017;77:88-97 e5. [PMID: 28495497].
3. Reich K, Armstrong AW, Foley P, et al. Efficacy and safety of guselkumab, an anti-interleukin-23 monoclonal antibody, compared with adalimumab for the treatment of patients with moderate to severe psoriasis with randomized withdrawal and retreatment: Results from the phase III, double-blind, placebo- and active comparator-controlled VOYAGE 2 trial. *J Am Acad Dermatol*. 2017;76:418-31. [PMID: 28057361].